

**A FRAMEWORK FOR THE DESIGN  
AND IMPLEMENTATION OF  
COMPETENCY-BASED TEACHER EDUCATION  
PROGRAMMES  
AT THE UNIVERSITY OF NAMIBIA**

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## DECLARATION

I, the undersigned, hereby declare that the work contained in this dissertation is my own original work and has not previously in its entirety or in part been submitted at any university for a degree.

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## ABSTRACT

Competency-based education (CBE) was introduced in the 1970s in the United States of America and its philosophical and practical dimensions are still being explored. As the Government of Namibia subscribes to CBE for all levels of education, the University of Namibia needs to understand this approach to education and how such programmes are ideally designed and implemented to bridge the gap between education (graduateness) and training (competence).

The goal of this study was to develop a contextualised CBE programme design and implementation framework. International programme design and implementation frameworks were analysed and synthesised and applied to a local university programme, the Advanced Diploma in Education, in order to test the validity of an international framework and adapt it to local conditions.

A qualitative research approach was used. On the one hand, data on the Advanced Diploma in Education (ADEd) was generated through methods such as stakeholder feedback on the ADEd design questionnaire as well as the analysis of relevant design and implementation documents. The post-hoc qualitative approach included a literature review, a visit to Australian universities and an international survey regarding the proposed design and implementation framework.

The findings of the study pertain to programme design and programme implementation. The programme design findings emphasised the importance of the management of change to a CBE approach, the format of module descriptors and the assessment of competence. The implementation findings highlighted the necessity of administrative changes to accommodate CBE features, the training of staff and continuous evaluation of the teaching environment and lecturer performance.

The study concludes that CBE appears to be appropriate for teacher education in Namibia when certain pitfalls are avoided and recommends that CBE programme designers at the Faculty of Education at the University of Namibia might apply the researched framework, comprising a comprehensive design and implementation section.

## OPSOMMING

Kompetensiegebaseerde onderwys (KGO) het reeds in die sewentigerjare van die vorige eeu in die Verenigde State van Amerika beslag gekry. Die filosofiese en praktiese dimensies daarvan word vandag egter steeds ondersoek. Omrede die Namibiese Regering die beginsel van KGO onderskryf, moet die Universiteit van Namibië hierdie beginsels verstaan en programme ontwerp en implementeer ten einde die gaping tussen onderwys (graduering) en opleiding (vir kompetensie) te oorbrug.

Die doel van die studie was om 'n gekontekstualiseerde KGO program te ontwerp en te implementeer. Internasionale programontwerp- en implementeringsraamwerke is hiervoor geanaliseer, byeengevoeg en toegepas binne die konteks van 'n universiteitsprogram, die Gevorderde Diploma in Onderwys (GDO), ten einde die geldigheid van 'n internasionale raamwerk te toets en dit by plaaslike toestande aan te pas.

'n Kwalitatiewe navorsingsbenadering is benut. Enersyds is data betreffende die GDO genereer via metodes soos die terugvoer van belanghebbers op die GDO ontwerpvrage en andersyds is 'n analise gemaak van relevante ontwerp- en implementeringsdokumentasie. Die *post hoc* kwalitatiewe benadering het ook 'n literatuuroorsig, besoeke aan universiteite in Australië en 'n internasionale opname betreffende die beoogde ontwerp en implementeringsraamwerk ingesluit.

Die bevindinge van die studie hou verband met programontwerp en –implementering en beklemtoon onder meer die belang van bestuur van verandering wanneer na 'n KGO benadering oorgeskakel word, die formaat van modulebeskrywers en die assessering van kompetensie. Bevindinge betreffende implementering beklemtoon administratiewe aanpassings om KGO eienskappe te akkommodeer, die opleiding van personeel en die deurlopende evaluering van die onderwyskonteks en personeelfuksionering.

Die studie kom tot die gevolgtrekking dat KGO geskik is vir onderwysersopleiding in Namibië indien sekere slaggate vermy word. Dit beveel aan dat KGO ontwerpers verbonde

aan die Opvoedkunde Fakulteit aan die Universiteit van Namibië die nagevorsde raamwerk, wat 'n omvattende ontwerp- en implementeringsgedeelte bevat, sou kon toepas.

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## **LIST OF ACRONYMS / ABBREVIATIONS**

<b>AAU</b>	Association of African Universities
<b>ATO</b>	Akademie vir Tersiêre Onderwys
<b>ADEd</b>	Advanced Diploma in Education
<b>CBE</b>	Competency-based Education
<b>DACUM</b>	Develop a Curriculum
<b>(H)IGCSE</b>	(Higher) International General Certificate for Secondary Education
<b>NIED</b>	National Institute for Educational Development
<b>NQA</b>	Namibia Qualification Authority
<b>RPL</b>	Recognition of prior learning
<b>SBE</b>	Subject-based education
<b>SENA</b>	Columbian National Curriculum manual
<b>TAFE</b>	Technical and Further Education (institutions)
<b>UNAM</b>	University of Namibia

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## **CHAPTER 1: ORIENTATION TO THE STUDY**

### **1.1 ORIENTATION TO THE RESEARCH PROBLEM**

Teaching has a long and proud tradition of service to society. It can be asserted that society is largely created in schools and that we currently live in a learning society where it is a necessity to be well educated. This development of human resources perspective is in line with the Namibian government sentiment that all education should address national development needs: a revitalisation of the whole sector of education is necessary so that *“Namibia can confidently face and take advantage of the opportunities and challenges of the twenty-first century. Failure to act decisively now is likely to result in Namibia falling victim to the intense competition that will ensue from globalisation and its new patterns of international cooperation and trade.”* (Namibian Presidential Commission on Education, Culture and Training report, 2001:29). If the survival race is to be won, the educational institutions whose business it is to cultivate the distinctive possibilities of man need to be continuously evaluated (Howie, 1976:ix). In a similar vein Ramsey (2000:9) maintains that the work of teachers become more, not less, important to develop this learning society. It is sensible therefore that the design and implementation of teacher education programmes deserve continuous reflection.

Namibia gained its independence from South Africa in 1990. Before this time Namibia was administrated as another province of South Africa. This dependence included the education of all teachers for Namibia in South African Colleges and Universities. This was the case until the Windhoek College of Education opened in 1979, and the Academy in 1980, to educate Namibian teachers. These two tertiary institutions were established by different political ideologists and the Academy had ties with the University of South Africa (Argiefgroep ATO, 1982:1).The Windhoek College of Education was linked with the Rand Afrikaans University (Windhoekse Onderwyskollege, 1989:2). In practice however, the teacher training programmes of both institutes were based on typical South African teacher training ideas of offering two school subjects, several education disciplines and the subject methodologies, together with teaching practice in the schools.

The Academy was open to all cultural groups and offered teacher training courses like a three-year and a four-year Diploma for primary teachers. The four-year Higher Education Diploma for secondary teachers, a Postgraduate Diploma for secondary teachers, as well as an honours degree for both primary and secondary teachers was also offered. After the independence of Namibia the Academy became the University of Namibia and the Faculty of Education continued with this entire inherited teacher training programmes. However, in 2000, a four-year B. Ed degree replaced the previous teacher training programmes. This four-year B. Ed degree as well as the one-year Postgraduate Diploma focuses on the training of secondary teachers. (University of Namibia, 2000:8). Four colleges of education throughout Namibia provide teacher training for primary teachers.

The said changes in Namibian programmes do, however, follow the traditional subject-based programme design and do not respond to the changed political and demographic character of Namibia or the nature of the Information Age economy and workplace changes. Lubisi, Parker and Wedekind (1998:32) state in this respect that the world of the steady job and lifetime career seem to be over: *“In its place has emerged the complex, high technology, competitive, unpredictable, and globally interdependent marketplace that is demanding constant change, adaptation, learning, innovation, and quality from its members.”* Given these circumstances, teacher education institutions should be confident that their approaches to teacher education equips teachers with the knowledge and skills relevant to prepare young people for the transition to adult and working life in an ever-changing world (Ramsey, 2000:9). To ensure that the broad purpose of human cultivation is not narrowed down or distorted into something less significant than it ought to be (Howie, 1976:ix), the reshaping of teacher education programmes in Namibia deserve ongoing attention. Programme review is however a complex process and how to develop the ideal teacher education programme is a recurrent debate for educational reformers, in Namibia too. One of the prevalent teacher education topics in both South-Africa and Namibia is the acceptability of competency-based education (CBE).

The competency-based education debate originated in the USA as is described in Chapter Two. During the 1990s countries like England, Wales, Scotland, New Zealand, Australia, Canada, USA, South Africa and Namibia introduced National Qualifications Authorities. These Qualification Authorities typically set the occupational and curriculum standards for a given

occupation and articulate qualifications within a National Qualifications Framework (Government Gazette of the Republic of Namibia, 1996:1-18; Technical committee on the revision of norms and standards for educators in South Africa, 1998:29-32). Acceptance of occupational standards for higher education qualifications is however still debated because opponents of CBE deem some features of CBE not suitable for higher education.

It is against this backdrop of teacher education in Namibia that a contextualised CBE teacher education diploma was developed in 1997 at the University of Namibia. This Advanced Diploma in Education (ADEd) was a postgraduate qualification, incorporating some competency-based features that intended to address a few specific Namibian needs of serving, senior secondary teachers in Namibia. The problem was that such a programme with competency-based features had never before been designed and implemented by the Faculty of Education at the University of Namibia. This study focuses therefore on the analysis of the design and implementation processes of the ADEd.

## **1.2 RATIONALE FOR THE RESEARCH**

If the premise is accepted that education is important for individual and national development (Argüelles and Gonczi, 2000:10; Allman, Kopp and Zufelt, 1980:98) it implies that education is a means to several possible ends of human development (Watts in Dale, 1985:9; Howie, 1976:12). The nature of the means-end relationship for competency-based education (CBE) differs from traditional education in respect of its strong occupational reality focus. Thus CBE could be purposely employed by contemporary governments as a vehicle for national human resources development and to address concerns such as unemployment, political unrest, global warming and the spread of HIV/AIDS. To activate the potential benefits of CBE on a Namibian national level UNAM needs to be aware of how CBE programme designs serve a human resources development drive. This research contributes to such awareness by clarifying the design philosophy and steps of CBE.

Namibia is no exception to accepting the proposition of the important role of education's contribution to the national, social and economic development, because the 2001-2002 combined budget for the provision of basic and higher education in Namibia totals about 24 percent (20.14



+ 4.20 percent respectively) of the national budget (The Namibian Economic Policy Research Unit, 2001:1). The two relevant Ministries of Basic Education, Culture and Sport and Higher Education, Training and Employment in Namibia accepted and promoted competency-based education ideas with the acceptance of a National Qualifications Authority Act in 1996 (Ministry of Higher Education, Vocational Training, Science and Technology, 1996:1). However, the teacher education institutes in Namibia are not yet (2006) embracing competency-based curriculum designs, partly because of a lack of expertise regarding CBE and partly because of resistance to change in the current status quo of the University of Namibia. The discussion of the advantages and limitations of CBE and the production of clear frameworks concerning how to apply CBE to higher education presents some necessary data for higher education leaders in Namibia to reflect on CBE and possibly reduce resistance to change.

As a member of the Faculty of Education at the University of Namibia (UNAM), the researcher spearheaded the design and implementation of a competency-based oriented programme, called the Advanced Diploma in Education (ADEd) in 1997. The ADEd task force faced great faculty resistance to its programme design and it was clear that the concept and practices of CBE in the faculty needed proper investigation and discussion. It was thus logically opportune to formally analyse the design and implementation of the ADEd pilot study. The development of contextualised CBE design and implementation frameworks (see Chapter Two) could serve as an impetus for other faculties of UNAM, the four colleges of education, the Polytechnic of Namibia and the different vocational training institutes to make better informed curriculum decisions for different contexts.

A further motivation for this study to investigate competency-based higher education programme designs was because private education companies have entered the Namibian arena of higher education, especially teacher education programmes. The Namibian Ministry of Higher Education, Training and Employment requires that all Namibian qualifications meet competency-based oriented criteria, for example:

- *The purpose of the course is stated clearly at the outset and comprehensively covers the course content and learning materials as well as expectations of learning outcomes.* (NQA, 1998:1).

- ❑ *The course clearly articulates how recognition is awarded for prior learning that occurred as a result of appropriate experience and previous training (NQA, 1998:4).*
- ❑ *The course indicates clear transfer arrangements that give credit for successfully completed parts of the course (NQA, 1998:4).*
- ❑ *In-text activities continuously challenge students to analyse current Namibian and other teaching practices and to apply competencies (knowledge, skills attitudes and personal attributes) to the solution of Namibian problems and the development of Namibian education (NQA, 1998:5).*
- ❑ *The teaching-learning model should create a supportive environment and the assessment strategy must include the display of an appropriate mix of knowledge-testing, skill and knowledge application, and problem solving activities (NQA, 1998:8).*

The UNAM teacher education programmes must therefore also comply with these criteria of the Namibia Qualification Authority and the results of this study can provide valuable data that might give UNAM a competitive edge.

Another reason for conducting this research was to point out that there are international examples demonstrating what curriculum designs are advantageous. Germany, for instance, is renowned for its quality services and products that are achieved through their ‘dual education system’ which has a balanced integration of academic theory and competency (also in higher education contexts) and the planning of education in “*terms of high-, middle- and low-level manpower*” (Dore and Oxenham in Oxenham, 1984:9). A counter example is China and many of the developing countries which experienced crippling effects to their economic survival when political ideology severed the links between education and working life (Unger in Oxenham, 1984:179). If UNAM leaders become aware of the intricacies of CBE through this research they may agree that the debate could no longer be whether or not to include utility knowledge and skills but rather which knowledge and skills and how much of it (Holland in Collins, 1993:88). As a consequence of this debate a willingness to experiment with CBE might be kindled.

The study was also deemed relevant for the National Institute for Educational Development (NIED). NIED had already accepted CBE oriented criteria, and this is reflected by a memorandum to a curriculum review task force, for example:

*“relevance of current curriculum to the world of work”*

*“relevance of current curriculum for self-employment purposes”*

(National Institute for Educational Development, 2000:3)

NIED might find the data of this study helpful regarding the design of national school subject syllabi and design and implementation of in-service training programmes that they perform for primary school teachers.

Hitherto, the importance of school education and consequently of teacher education to achieve quality schooling, were pointed out. The reasons for undertaking this research points to the necessity of investigating a specific curriculum design, referred to as “competency-based” that could presumably contribute towards improving teacher education programmes. To obtain a clear picture of the specific focus of this study on competency-based curricula in higher education, a description of the research problem is provided.

### **1.3 DESCRIPTION OF THE RESEARCH PROBLEM**

It was indicated above that there is a need at UNAM and in Namibia to identify frameworks for the design and implementation of competency-based programmes. The ADEd programme was the first UNAM teacher education qualification to apply CBE criteria to its design and implementation. The research problem of this study relates to this ADEd design and implementation frameworks in depth.

An accurate description of a research problem is a requirement that influences the validity of research, because the exactness of the research problem impacts on other aspects of the research such as its scope, depth and methods of gathering data (Mouton, 2001:51; Collins, Du Plooy, Grobbelaar, et al. 2000:64). To get an exact indication of the nature of the unit of analysis of the investigation the researcher must determine whether the problem relates to individuals, groups, ideas, ideologies, attitudes and opinions, structures and processes, methods and practices, and

causes and effects of phenomena (Leedy, 1997:96-97; Mouton and Marais, 1988:37-40). In this research the unit of analysis involves a teacher-training programme at the University of Namibia, namely the Advanced Diploma in Education.

### ***Research question***

In the light of the above background provided, the main research question can be stated as follows: In what way can CBE serve as a useful theoretical framework to design and implement a teacher education programme at the University of Namibia?

### ***Research sub-questions***

The research problem implies that the appropriateness of CBE for higher education contexts should be addressed before guidelines for its design and implementation could be generated. The research problem can thus be elucidated by the following sub-questions that highlight the primary aims of the research:

- (a) How appropriate is CBE for the design and implementation of a teacher education programme at the University of Namibia?
- (b) What constitutes a design and implementation framework of a competency-based teacher-education programme?
- (c) How did the design of the ADEd programme correspond to the characteristics of such a CBE design framework?
- (d) How did the implementation of the ADEd programme correspond to the characteristics of such a CBE implementation framework?

The aim of this study is thus, firstly, to analyse the characteristics of CBE and evaluate whether CBE is appropriate for teacher education in Namibia. Secondly, what would constitute design and implementation frameworks of a CBE programme at UNAM? Thirdly, to which extent did the ADEd design corresponds to CBE design features? Fourthly, to which extent did the ADEd implementation meet CBE implementation features? The findings to the last two questions could contribute to the appropriate Faculty of Education CBE frameworks. The focus is therefore not to evaluate the content or quality of the piloted ADEd programme per sé, but to integrate the insights gained from piloting this Namibian programme with international recommendations

regarding the design and implementation frameworks of CBE programmes. Consequently the research methodology applied did *not* pursue an evaluation of the ADEd but the analysis of design and implementation frameworks of ADEd.

## **1.4 CLARIFICATION OF KEY CONCEPTS**

Clear communication requires the establishment of accurate meanings of concepts used, because concepts have different connotations and denotations and these variations in meanings also very often reflect the different views of authors. The constant use of explicitly defined meanings not only contributes to unambiguous communication, but relates also to the validity of the research (Mouton and Marais, 1988:58-60).

The concept of competency-based education is constantly evolving as Harris, Guthrie, Hobart and Lundberg (1995:4) is confirming: CBE “...*is being shaped and moulded as it travels along its exploratory way.*” This would imply that a concept would gain and lose nuances as it undergoes metamorphosis. The nuances of key concepts that are used in this study need therefore to be specified.

### **1.4.1 Competency-based education (CBE)**

The concept of ‘competency-based education’ is sometimes referred to as ‘outcomes-based education’, ‘mastery learning’, ‘performance-based education’, ‘criterion-referenced instruction’, ‘systems approach’ or ‘technological approach’ (Blank, 1982:7). The most popular alternative concept is ‘outcomes-based education’ or OBE. If one considers the origins (cf. Hyland, 1994:1; Bowden and Masters, 1993:21) of CBE, the original concept is ‘competency-based education’ and was coined and applied in 1967 in the USA in the area of primary and vocational teacher education as well as vocational education (Harris, et al.1995:40). The history of CBE further reveals that the initial CBE features were influenced by vocational training and National Vocational Qualifications that led to a “narrowing of skills, knowledge and occupational focus...” (Hyland, 1994:12). Because of criticism over the years and increasing experience in different educational contexts the proponents have evolved CBE and adopted more inclusive language (Smith, Marriage and Gillespie, 1994:11), particularly the term ‘outcomes-

based education'. The concept of OBE highlights clearly the 'intended results or outcomes' and calculates how teaching and assessment will accomplish this (O'Neil, 1994:6) rather than 'competence' which is a complex concept that has sparked much debate, for instance, its relation to knowledge (Norris, 1991:331). In Namibia, unlike South Africa, the official concept is CBE and the concept OBE is viewed as a synonym; therefore, this study applies this official Namibian concept.

Grant, Elbow, Ewens, Gamson, Kohli, et al. (1979:6) define CBE as "...a form of education that derives a curriculum from an analysis of a prospective or actual role in modern society and that attempts to certify student progress on the basis of demonstrated performance in some or all aspects of that role." Applied to teacher education, it implies that the roles of teachers and consequent knowledge and competencies within each role will be identified and the teaching and assessment system will require demonstration of competencies as far as practically possible. It portrays also the idea that an 'output model' is followed as opposed to the traditional 'input model', where educational design focuses strongly on inputs like materials, facilities and timetables that do not reflect much about the quality outcomes of the education to be achieved (Alexander, s.a.:2).

Boschee and Baron (1993:1) define school oriented competency-based education as "...a student-centred, results-oriented design premised on the belief that all individuals can learn." For them competency-based education further involves a commitment to the success of every learner. This definition is rather narrow and emphasises merely the *learner-centred orientation* and the *results-orientation* of the paradigm.

According to Spady (1994a:1) one of the major proponents of OBE, competency-based education "...means clearly focussing and organizing every thing in an educational system around what is essential for all students to be able to do successfully at the end of their learning experiences." This means starting with a clear picture of what is important for students to be able to do, then organizing the curriculum, instruction, and assessment to make sure that this learning ultimately happens. This definition puts emphasis on 'the ability to do' outcomes and the nature of the CBE system without indicating possible values and principles involved or the relationship of competence to knowledge. The above definition of 'competency-based education'

is not complete but emphasises key CBE features such as its nature as an integrated system which leads to a curriculum focusing on competent occupational performance while addressing learner success and support.

Although the three definitions in the paragraphs above provide a simplistic understanding of CBE there are many constituting aspects that are not reflected. A more accurate understanding of CBE could be attained via a brief description of further key characteristics of CBE. Table 1.1 below summarises such key characteristics of CBE according to Sullivan (1995:3).

**Table 1.1: Key characteristics of CBE**

❑ Competencies are carefully selected
❑ Supporting theory is integrated with skill practice. Essential knowledge is learned to support the performance of skills
❑ Detailed training materials are keyed to the competencies to be achieved and are designed to support the acquisition of knowledge and skills
❑ Methods of instruction involve mastery learning; the premise that all participants can master the required knowledge or skill, provided sufficient time and appropriate training methods are used
❑ Participants' knowledge and skills are assessed as they enter the program and those with satisfactory knowledge and skills may receive credit for training or competencies already attained
❑ Learning should be self-paced
❑ Flexible training approaches including large group methods, small group activities and individual study are essential components
❑ A variety of support materials including print, audiovisual and simulations (models) keyed to the skills being mastered are used
❑ Satisfactory completion of training is based on achievement of all specified competencies

(Source: Sullivan, 1995:3)

This brief overview of Sullivan highlights only some features of CBE and reflects little of its complexity. What is clear from the above definitions and Table 1.1 is that CBE distinguishes itself from other curriculum designs because of its strong 'relevance for life' focus since it

departs from real occupational roles. Consequently programmes focus on living and working competence. This occupational focus could, however, pose a danger of too narrow an approach since the necessary knowledge, skills and capabilities should be complemented with some generic education that incorporates ‘critical outcomes’ such as ‘thinking and communication skills’ (Technical Committee on the revision of norms and standards for educators in South Africa, 1998:41). Apart from a result-oriented focus of CBE the learning process is also emphasised and the role of knowledge in competence recognised. To summarise, the researcher subscribes to a definition of competency-based education as being an ‘integrated system’, with a focus on ‘relevant competence’ as well as ‘learner-oriented’ results.

The features of CBE will be discussed in more detail in Chapter Two and Chapter Five where the characteristics, design and implementation of CBE will be analysed.

#### **1.4.2 Education and training**

The debate concerning how ‘education’ should be defined has not produced general agreement and when education is contrasted with training, the debate becomes even more diverse. Harris, Guthrie, Hobart and Lundberg, (1995:14), acknowledging Snook (1973), describe training as “...*preparing people in a narrow way for some job, position or function*”, whereas education involves “...*preparing them for life in a broader and more inclusive sense.*” Education is mostly seen as a broader concept than training with higher cognitive demands than training and a focus on knowledge rather than on skills (Harris, et al. 1995:14). This view is also echoed by Penington (1994:70) when stating that education *develops and civilizes* the person, while training provides industry with specific skills. This means education involves teaching the ‘what’ and the ‘why’ to ensure understanding and transferability of ideas. Training is supposed to have a narrower focus on the ‘what’, the ‘how’ and the ‘when’. This boils down to a more theoretical versus a more practical approach to training.

The supporters of CBE agree that education and training can be conceptually distinct, but quality education programmes encompasses both (Ellis in Burke, 1995:84). All levels of education should prepare people for the multifaceted responsibilities of adulthood, which include both self-development, broadening of intellectual views and earning a living. While there may be good



practical reasons for having separate institutions to focus more strongly on self-development or earning a living, the philosophy of both types of institutions should bridge the gap between the intrinsically worthwhile and utilitarian (Stanton in Burke, 1995:154). CBE accepts therefore that quality education “...recognises that in training there is education and in education there is training” (Smith, Marriage and Gillespie, 1994:5). This means that the acquisition of knowledge, of generic and occupational skills as well as values are vital for both holistic and futuristic views of education and training. Therefore, features of the *competent graduate* and *competent worker* should merge in any programme. The question to be determined, however, is the ratio between the education and training components.

In summary, the researcher upholds the view that quality education and training should both emphasise theory and practice although different types of educational institutions could emphasise *different ratios* between the two components. This merger might enhance the quality of life of individuals by being competent in occupational roles and helps them to be respected citizens because of their proper values and broad intellectual views. In this way both individual and national development needs are addressed.

### **1.4.3 Competence / competencies**

The notion of a ‘competent person’ is not new and the term ‘competence’ can certainly be traced back to before the competency movement (Hyland, 1994:19) since every person has to master reading, writing and many other developmental tasks on the road towards being a competent adult. The questions about the meaning of ‘competence’ are not trivial; after all, the term ‘competence’ is at the heart and foundation of the whole paradigm, because the purpose of CBE is to develop a competent workforce. Opponents of CBE such as Hyland argue that analysis of the whole ‘competence talk’ reveal the following of a strategy similar to the way ‘slogan systems’ evolve. Hyland (1994:27-29) sees ‘competence’ as such a slogan word, with no substantial theoretical underpinning. This view is debatable and is addressed in Chapter Two.

Dictionary definitions of competence include synonyms such as ‘sufficient’, ‘adequate’ and ‘suitable’ (Hyland, 1994:23). Kaslow (2002:1) refers to the Webster’s Dictionary when she clarifies *competence* as firstly the *state of being well-qualified* and secondly, competence as an

*ability*. The concept competence can thus be defined in terms of a worker performing *roles and tasks adequately* in relation to expected standards (Mansfield in Burke, 1989:27-28). This definition does, however, not reveal much of what is meant by competence. Norris, (1991:332-333) broadens the competence definition by stating that competence is usually treated as something a *person is* and is *able to do*. Thus *personal attitudes and traits* are acknowledged as elements of competence together with *action or behaviour* (see also Liikamaa, Koskinen and Vanharanta, 2003:5). Agreement about a comprehensive view of competence, is offered by Public Service Commission of Canada, 1998:2; Kaslow (2002:1-3); Heystek (in Van der Vyver, 1996:117); Preston and Walker (in Collins, 1993:118); Chappel and Melville, (1995:8) as a *collection of personal characteristics, aggregates of understanding and ability to do*. Hyland (1994:21) notes the distinction between competence as a ‘capacity’ and as a ‘disposition’, where *capacity* applies to persons / human attributes (as competence, plural: *competences*) and whereas the *dispositional sense refers to activities* (as competency, plural: *competencies*). According to Wood and Power (1987:409) these educational differences between *competence* and *competencies* are profound and must be observed by programme designers. Competence is thus displayed through the working together of competence and competencies which include a specialised knowledge base; skills such as occupational-specific and generic skills; attitudes connected to emotional intelligence; values such as reliability; thinking and other abilities such as planning and organising (Hillage and Pollard, 1999:14). It should be recognised however that personal traits and motives might be difficult to capture as competencies and to be taught and assessed.

Additional notions of competence deserve closer clarification. ‘Generic competence’ extends the notion of competence to incorporate generic skills, knowledge and understanding. These generic competences are valid *across occupations* and include skills such as *communication, application of number and information technology* (Hyland, 1994:24). In South Africa these key or generic competences are referred to as ‘critical outcomes’ (Carl, 2005:19). Winterton (2002:6-7) draws on several authors’ definitions that delineate ‘meta-competencies’ from mostly a management programme’s perspective as: higher-order abilities such as the *ability to learn, to adapt, to anticipate* and to *create*. Buckley, Monks and McKeivitt (2002:5) add *self-knowledge* to these abilities while Kaslow (2002:4) describes meta-competencies as the *ability to judge the availability, use, and learnability of personal competencies*. The *meta*-part of the concept ‘meta-

competency’ typically carries the meaning of ‘underpinning’ other competencies. Meta-competence is therefore not so much about introducing new competencies, but offers merely a classification perspective (Hyland, 1994:26).

Eraut (in Burke, 1989:181-182) directs the attention to the possibility that different levels of competence might be considered, like the Dreyfus model with its five-stage description of skill acquisition: *novice, advanced beginner, competent, proficient, and finally, expert*. Certainly the question can be asked what level of competence an initial teacher should possess. Reflecting on the levels of competencies should be complemented by reflection on the scope of competencies. Burke, (1989:37) and Hyland (1994:23) both identify four areas of competencies, ranging from performing *basic tasks, task management, contingency management* and *job environmental* competencies. To the researcher these areas lack provision for ‘general education’ and Chapter Three reflects how these categories of competence could be applied in a design framework.

In summary, in this study the inclusive view of competence is supported: encompassing competence as personality attributes, understanding of knowledge, thinking and other generic abilities, feelings and values as well as the performance of skills. The researcher supports the holistic view of competence that would describe a competent teacher in terms of performing specified roles that move beyond basic teaching tasks. The competent teacher would also possess thinking abilities and knowledge (foundational competence), skills or capabilities (practical competence) (Technical Committee on the revision of norms and standards for educators in South Africa, 1998:ii) and *value requirements* of the profession. The *scope* of competence should, however, cover all work areas and not merely the basic teaching role of the teacher. The level of competence should vary from ‘beginner’ to ‘advanced’ for different roles and levels of qualifications.

The accommodation of the complexities of competence in a teacher education design framework is discussed in Chapter Three and incorporates a ‘competency unit’ that reveals components such as a ‘competency outcome’, ‘range statement’ and ‘performance criteria’.

#### **1.4.4 Skills**

It has been clarified above that competence is demonstrated through knowledge, values, personal qualities as well as skills. Much has been written about the classification of skills but not about defining and distinguishing skills from competencies. Reading, writing, speaking and arithmetic are, for example, commonly referred to as *basic skills* and reasoning, creative thinking and problem solving as *thinking skills* (Skills that work, 1998:3). The Australian Mayer report however, refers to ‘expressing ideas and information’; using mathematical ideas and techniques’ and ‘solving problems’ as key ‘competencies’ not as ‘skills’ (Harris, et al. 1995:23). According to Burke (1995:xiv) skills are the ‘performance component’ or ‘to do’ aspect of competencies. To the researcher’s way of thinking skills are thus *smaller* components of competencies and involve *activities, techniques and processes* to execute competencies. They are part of the HOW to do things that refers back to the ‘training’ definition provided earlier in the chapter.

The researcher maintains that skills could be distinguished but not separated from competencies and that is probably why some authors make no distinction between competencies and skills. For Tomlinson (1995:185) the unclear distinction between ‘competence’ as capability and ‘skill’ as involving process and strategy is due to the failure to distinguish between ‘competence and performance’. Since skills are part of competencies as learned abilities, skills should have the same *knowledge, values and personal qualities* characteristics of competencies apart from their *practical* characteristic. Each skill has therefore a knowledge, value, personal trait and activity component. For example, a manual skill involves physical movement and maybe hand-eye coordination but it also involves a *knowledge* base, *thinking* processes and is influenced by the attitude / value *intent* of an employee. Skills are acquired through theoretical learning and practice (Warwick Institute for Employment Research, s.a.:1-2) but it is obvious that repeated practical experience would hone skills until they become professional habits.

There are different classifications of skills. Many of the classifications are the same as for competencies, for example, *generic skills, interpersonal skills, thinking skills, information technology skills and social skills* (Marsh, 1997:72-74). There are however also *manual, vocational specific* and *employability* skills (Warwick Institute for Employment Research, s.a.:2). Vocational skills can be mentioned as examples of manual skills. A distinction is often made between core or essential skills and desirable skills (Foyster, 1990:16-17). Core skills, also called generic skills, are common to a wide range of competent performance across occupations

(Burke, 1995:48; Jessup, 1991:30; Workforce Development Report, 2001:2). Examples of such core skills are often related to *information technology* and *personal skills*.

In summary, skills are the fundamental activities / performances that are required to demonstrate competencies as abilities. Skills can be distinguished but not separated from competencies. Since skills are part of competencies as learned abilities, skills should have the same *knowledge*, *values*, and *personal qualities* characteristics of competencies apart from its *practical* 'how to do' characteristic. Like competencies, skills could be categorised from different perspectives. The initial competency notion developed from a narrow *activity* skills focus to the inclusion of knowledge, values, understanding and character traits.

#### **1.4.5 Outcomes**

The term 'outcomes' was more familiar in the vocational education and training circle along with 'outputs' and 'attainments' than in the higher education documents. This was the case until the competency approach promoted it as a key concept and Jessup, in particular, proposed an 'Outcomes Model' (Burke, 1995:56). The writing of a competency-based outcome should, in essence, answer the question of 'what should the student achieve' (Otter in Burke, 1995:276). For Spady (1994a:51-52) different types of outcomes stipulate these required learning results. Firstly, the long term outcomes need to develop internalised performance abilities that really matter to students beyond schooling and are referred to as 'culminating outcomes' or 'exit outcomes'. A second category of outcomes is 'enabling outcomes' (referred to as *learning outcomes* in Namibia) that are the key building blocks on which those exit outcomes depend, as in the case with aims and objectives. A third kind of outcome is 'discrete outcomes' which is not essential to a student's culminating outcomes but covers rather isolated content details that are 'nice to know' and even required for grading purposes but are very often not remembered for very long (Spady, 1994a:52). To the researcher the distinction of 'discrete outcomes' is not helpful since 'enabling outcomes' would incorporate them.

Outcomes thus express the intended education 'competence' and 'competencies' and as such should capture the knowledge, attitudes, skills and ability dimensions within identified roles and areas of competence (Mansfield in Burke, 1989:27; Harris, et al. 1995:21). The distinction

between exit and learning outcomes is however crucial and needs to be addressed in a CBE design framework. If it is accepted that exit outcomes are basically equivalent to the former goals or aims as broad statements of intent, then the formulation of exit outcomes are also similar to the formulation of aims. Examples of exit programme outcomes could be like those portrayed in Table 1.2:

Table 1.2: **Examples of exit programme outcomes**

<p><i>Engineering graduates must have:</i></p> <ul style="list-style-type: none"><li>- an ability to apply knowledge of mathematics and science;</li><li>- an ability to function on multidisciplinary teams;</li><li>- an understanding of the impact of engineering solutions in a global and societal context.</li></ul>
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(Source: South-Eastern University and College Coalition for Engineering Education, 1998:2)

These exit outcomes also demonstrate that outcomes typically focus on abilities (solve problems and work in teams) and attitudes (recognise need for lifelong learning) rather than knowledge, because knowledge is mostly identified later on in the design process by the learning outcomes. Exit and learning outcomes are informative about graduates' educational levels to both prospecting students and employers. They are also a tool for the management of assessment. They identify course levels, prerequisites and standards clearly which allow better accreditation and evaluation of programme quality. Specified outcomes guide the selection of content and sequencing of courses or modules. Close analysis of exit and learning outcomes leads to easier detection of under- or overspecialisation and depicts an overview of built-in generic skills such as communication and problem solving (Otter in Burke, 1995:282-283). Thus, despite criticism against an outcomes model (to be addressed in Chapter Two) the advantages of the move away from woolly aims towards explicit exit and learning outcomes in higher education are clear.

In this study the concept *exit outcomes* refers to the tasks which students should be able to perform and could be broken down into *learning outcomes* which specify knowledge levels, skills, values and attitudes. Outcomes appear to need to be compiled with a certain level of expertise as well as with a national qualification framework level in mind. The researcher is of

the opinion that the analysis of an occupational reality could serve quality education well if the dangers involved are recognised. Although it might not always be possible for outcomes to capture some dimensions of education perfectly, they become the foundation for decisions about selecting content, instruction and assessment.

On the surface the CBE concept might look quite logical and feasible. Thinking about its underlying assumptions and converting it into a well-designed programme, however, may prove to be very demanding. Since this study focussed on the design and implementation frameworks of a teacher education programme, the term ‘competency-based programme’ begs clarification.

#### **1.4.6 Competency-based programme**

The tendency to use the term ‘programme’ when referring to an education ‘curriculum’ (Boone, 1985:2; Jarvis, 1983:212) is adhered to in this study. The term ‘programme’ in this research is viewed as a form of curriculum and further investigation of ‘curriculum’ illuminates the term ‘programme’ (see also Gravett and Geysler, 2004:147).

Since education is an orderly effort, some plan is needed to guide this effort. The term ‘programme’ refers to this ‘plan’ or ‘educational track’ that students follow as part of, and in preparation for, life (Carl, 1995:31). Programmes as an educational track consist typically of components such as purposes, content, teaching-learning experiences and assessment (Posner, 1992:13). As can be expected, definitions of the term ‘curriculum’ do not only reflect value judgements regarding the nature of education but also influence the nature of the curricula (Saylor, Alexander and Lewis, 1981:3). According to Posner (1992:4) conceptual differences about ‘curriculum’ are based on the expected ‘ends’ of education.

According to Carl (1995:31-36) Stenhouse (1966) and Tunmer (1981) describe ‘curriculum’ as the *formally planned* educational track that includes clear aims, content, methods and evaluation. Carl continues to describe Schubert (1986) and Oliva’s (1988) views of the curriculum that extend beyond the formally planned components to include *everything that takes place within an institution, the package of material and what an individual learner experiences*. This definition

acknowledges the sum total of the means by which a student is influenced and would include, according to the researcher, extra-curricular activities and the sphere of the hidden curriculum.

Gravett and Geysler (2004:146-147) summarise the issue of defining 'curriculum' when stating that it can be viewed as 'transmission of content'; as a 'final product' and curriculum as a 'process'. The latter view focuses on the development of a learner rather than on the transmitting of content or the achieving of narrow outcomes as final product. The 'process view' of curriculum with a focus on the holistic development of people as expected 'ends' of education applies to CBE. A curriculum with a people or learner focus typically incorporates a 'relevancy' principle. This 'relevancy' (cf. Carl, 1995:24) or 'responsiveness' (cf. Breier, 2001:5) feature operates strongly in CBE programmes. CBE is thus not driven by 'management' or 'assessment' but by outcomes as learning accomplishments which direct the further design and delivery of a programme.

According to Spady (1994a:3) to base a system on something means defining, structuring and operating a system according to some consistent principle. In CBE this 'consistent principle' would be the specification of outcomes: "*A system based on outcomes gives top priority to ends, purposes, learning accomplishments, and results*" (Spady, 1994a:3). Programme decisions are thus consistent with these specified outcomes. In the researcher's view it is this recognition of the interrelationship between the internal elements of a programme as well as the relationship between education and reality as the external environment that qualifies CBE as a systems approach.

As this study investigated possibilities for the design and implementation framework of a competency-based programme, the denotations of programme that are applicable are the 'planned' and 'actual implemented' framework of an educational track. The next two sections define this 'design framework' and 'implementation framework'.

#### **1.4.7 Programme design framework**

As indicated previously a 'programme' in this dissertation is viewed as an alternative for a 'curriculum' and therefore 'programme design' is used interchangeably for 'curriculum design'. A programme design framework represents steps according to which a programme could be



designed. Harris, et al. (1995:223) state that the design of a competency-based programme should cover the following 'key areas': *competency standards, learning outcomes, location of training and assessment, assessment system, learning activities, learning materials and resources and facilities*. Fletcher (1995:67) proposes similar issues but formulates them closer to steps in a design: *review of current standards and practices; match standards to workplace requirements; a proper needs analysis; establish content and structure it in modules and units; plan delivery methods; resources and administrative arrangements*. Although Fletcher does not list *assessment* she refers to it as part of describing modules and units.

Blank (1982:26) clearly refers to design *steps* and proposes a specific *sequence* of them in his CBE programme framework: “...*describing the occupation; identifying of student prerequisites; identifying and verifying of job tasks; selection of relevant knowledge related to tasks; writing and sequencing of terminal performance outcomes; developing of performance and written tests; developing and piloting of learning material; describing the system to manage learning; to implement and evaluate the programme.*”

These listed elements or steps are still broad and do not separate the design from implementation steps. The steps do, however, mirror the differences between a competency-based and a subject-based design: a CBE design includes elements such as the description of the occupational roles and tasks that direct the selection of the knowledge and skills. Furthermore, a CBE design verifies the selected knowledge and skills with relevant stakeholders; group knowledge and skills often into modules rather than subjects and develop and administer performance tests. In addition, CBE designs focus strongly on the management of the programme implementation to ensure maximum student support (Harris, et al. 1995:29; Blank, 1982:5).

For the purpose of this study it should be noted that there are *broad* steps that a competency-based design might cover and that these steps are different for a subject-based design. The main difference appears to be that the CBE philosophy regarding the nature and purpose of education results in the selection and organising of content in a different manner from a subject-based design. Although CBE and SBE programmes display distinct differences the two types should not be polarised as some CBE elements could also be applied in a SBE programme and a CBE programme also has SBE elements. Chapter Three elaborates on the possible design steps of

CBE and Chapter Six analyses the detailed design framework of a piloted CBE teacher education programme.

#### **1.4.8 Programme implementation framework**

The implementation of competency-based education involves the modification of a number of subject-based steps and the establishment of new steps. According to Harris, et al. (1995:252) such steps should address: *access to the programme; support of learner progress; staff duties and workloads; records of competency-achievement; finances; integration of on-the-job and off-the-job learning; use of materials and resources; recognition of prior learning; registration as a training provider; and recognition of the course or training programme* by the relevant qualification authority. These implementation issues have not yet been formulated as steps or sequenced in a logical order and further steps could be added.

When it comes to the implementation of competency-based programmes, Haffenden and Brown (in Burke, 1989:162) emphasise the proper management of change. This is indeed a crucial factor since the move away from traditional programme ideas might meet with great staff resistance. Gamson (in Grant, et al. 1979:237), Burke (1989:144), Bradley (1987:19-20), Wolf (1995:131) and Spady (1994a:102-105) highlight further implementation aspects like the management of change; staff development; financial policies; assessment policies and procedures; management processes; student support; piloting and evaluation of a programme. Chapter Three identifies and sequences such detailed steps of a possible implementation framework.

#### **1.4.9 Advanced Diploma in Education (ADEd)**

The researcher often refers to design and implementation issues of the Advanced Diploma in Education (ADEd) that was piloted by the Faculty of Education at the University of Namibia. This diploma was a postgraduate qualification which incorporated some competency-based features that intended to address the need of serving, senior secondary teachers in Namibia in regard to:

- *expert subject knowledge in order to teach the accepted Cambridge subject content;*

- *understanding a learner-centred paradigm to promote meaningful learning;*
  - *better management of classrooms and schools*
- (Engelbrecht, Hope, Katzao, et al. 1997:2).

The specified content of ADEd was categorised into four categories of skills, namely: (a) Basic teaching skills; (b) Job management skills; (c) Contingency management skills and (d) Job environment skills. The programme was piloted over two years with 14 Saturday sessions per year (Engelbrecht, Hope, Katzao, et al. 1997:7).

Reference to the Advanced Diploma is done with the purpose of extracting valuable *post-hoc* insights about the design and implementation of competency-based programmes in Namibia.

#### **1.4.10 UNAM as example of the Namibian higher education context**

Higher education could refer to the certificate, diploma and degree level of education after grade 12, normally provided by institutes, colleges, universities and polytechnics. In this case the higher education context is firstly the University of Namibia (UNAM), situated in Windhoek, the capital of Namibia, and secondly the Polytechnic as well as the four Colleges of Education throughout Namibia that educate basic education teachers. UNAM could be viewed as an example of a higher education institution in a developing country, however, the recommendations of the study presented in Chapter Seven are specifically for the UNAM context.

### **1.5 RESEARCH METHODOLOGY**

The research problem in this case was: In what way can CBE serve as a useful theoretical framework to design and implement a teacher education programme at the University of Namibia? A case study design as part of a mainly qualitative research approach was selected to investigate the in-depth analysis of the ADEd design and implementation framework. The essence of the research is to develop a CBE design and implementation framework for a teacher education programme at UNAM. To this end the characteristics of CBE were identified through a literature review and critically discussed to determine the appropriateness of CBE for teacher

education. Ten CBE programme design and implementation frameworks were analysed to create a synthesised design and implementation framework which was monitored for incorporating CBE features. The synthesised framework (cf. Table 3.1) was expanded through a further literature study (cf. Table 3.9) and finally validated through an international survey. This validated framework was applied to the ADEd case in order to determine if changes should be made for the local UNAM context. Both the original ADEd methods and the post-hoc methods of validating the designed CBE framework are evaluated. Data gathered from the literature review, document analysis and questionnaires were interpreted with the aim of discovering relationships and patterns, referred to in the study as ‘steps’, regarding programme design and implementation frameworks suitable for teacher education. Chapter Four describes the research methodology in detail.

## **1.6 STRUCTURE OF THE DISSERTATION**

This dissertation follows the following structure:

Chapter One as the orientation to the study describes the motivation and value of the study, states the research problem, introduces the research methodology and clarifies the major concepts related to the title.

In Chapter Two the findings of a literature review regarding key aspects of the research problem are reported. In line with the title of the study, teacher education models are examined which incorporate international perspectives and those of developing countries. The features of a CBE teacher education model and its implications for programme design and implementation frameworks are delineated and the appropriateness of CBE for university education is discussed.

In Chapter Three the findings of a literature review regarding programme design and implementation features are discussed. Ten examples of CBE programme designs and implementation are analysed, synthesised and expanded upon via theoretical perspectives.

Chapter Four describes the research paradigm, case study design and methods of data generation. The assumptions and limitations of the research are identified and the ways to ensure validity and reliability of the data are described.

In Chapter Five the ADEd design and implementation data is presented. This empirical data provides the basis for analysis in the next chapter.

Chapter Six critically analyses the validity of the ADEd design and implementation steps, what each step entails and the sequencing of the steps. The analysis also involves the correlation of the steps with the identified features (in Chapter 2) of CBE, with feedback from ADEd students and the international e-mail survey as well as factors of the UNAM context that impeded or promoted the implementation of ADEd.

Chapter Seven proposes a framework to guide the design and implementation of CBE teacher education programmes at UNAM and the study is concluded with recommendations for further research.

The next chapter provides a description of teacher education models and the features of a CBE model and reflect on the appropriateness of a CBE teacher education model for the Faculty of Education at UNAM.

## **CHAPTER 2: LITERATURE OVERVIEW: TEACHER AND COMPETENCY-BASED EDUCATION (CBE)**

### **2.1 INTRODUCTION**

Teacher education development and reform could be viewed in terms of the major questions that have been enacted in research, policy and practice. According to Cochran-Smith (2000:1) a simplified chronological list of these major questions that have driven teacher education reform over the past fifty years, could be seen as: *the attributes question; the effectiveness question; the knowledge question* and now the *outcomes question*. Jackson (in Collins, 1993:154) observes that competency-based education is the subject of an intense controversy in Australia, Great Britain, Canada and the United States because the stakes are large as educational systems in a wide variety of settings could be changed. The outcome debate is complex because, for example, the philosophical questions about the goals of teacher and learner education are underpinned by *values* that could not easily be settled empirically (Cochran-Smith, 2000:2). The controversy is still rife in 2006 at UNAM and this research aims to provide greater clarity about characteristics and consequent appropriateness of CBE and how such programmes could be designed and implemented locally.

In order to address the research problem of ‘In what way can CBE serve as a useful theoretical framework to plan and implement a teacher education programme?’ the chapter explores firstly international teacher education models and perspectives from developed and developing countries. Secondly, the characteristics of a CBE model of teacher education and the implications of such features for a design and implementation framework are investigated. Thirdly, the appropriateness of CBE as a paradigm for teacher and thus higher education programmes is discussed.

### **2.2 TEACHER EDUCATION MODELS AND PARADIGMS**

Since this study discusses an alternative teacher education paradigm to the current subject-based one at UNAM, it makes sense to take note of teacher education models and perspectives in developed and developing countries.

### 2.2.1 Teacher education models

Political interest in how other countries organise their education systems goes back at least to the nineteenth century but is now a global concern (Moon, 1998:5, 2). Teacher education is generally viewed as a formal and systematic attempt to develop knowledge and skills of teachers who are based in either education institutions or schools (Reddy, Menkveld and Bitzer, 2007:1). The endless debate about how teacher education courses should be structured and sequenced resulted in a multitude of structural teacher education models (Scannell, s.a.1-9) with European models mainly consisting of four common components:

- (a) studies in educational sciences;
  - (b) academic subject studies;
  - (c) studies in subject matter methodologies and
  - (d) teaching practice
- (Moon, 1998:6).

As expected, considerable variations in the detail of such teacher education models exist in different countries regarding issues such as the length of the programme; total weeks of teaching practice; centralisation or decentralised control of the programmes; different types of partnerships in the design and delivery of the programmes; the pedagogical focus of aims for academic subjects; the values to be developed in teachers and principles underpinning the curriculum, e.g. relevance and learner-centeredness (Moon, 1998:6-36). Some of the teacher education models reflect particular theoretical perspectives, such as ‘instructor-centred’, ‘student-centred’, learning ‘community-centred’ / interactive model (cf. Moore, 2006:1-5). Teacher education models at McGill University and the University of Calgary in Canada focus, because of their multicultural student population, on ‘cultural diversity’ that address ‘intercultural’, ‘multicultural’ and anti-racist perspectives (University of Calgary, 2006: 2). The Eastern Mennonite University has a ‘Reflective Teaching Model’ which incorporates five categories of knowledge: (a) knowledge of self as teacher, (b) knowledge of content, (c) knowledge of teaching and learning, (d) knowledge of students and (e) knowledge of schools and societal contexts. The model addresses not only ‘knowing’ but also ‘practice / doing’ and ‘dispositions / being’ of a teacher (Eastern Mennonite University, s.a.1). Although the model is not mentioning

‘roles’ the reference to ‘doing’ and ‘dispositions’ areas suggest that the model incorporates at least some roles as well. These three areas of focus are also emphasised by CBE and that means that CBE can serve as a useful theoretical framework to plan and implement a teacher education programme in this regard.

The Longwood University in Virginia, USA, follows an ‘Interdisciplinary Teacher Preparation Model’ where the teacher preparation programme has four components: General Education, Liberal Studies, Pedagogy and Field Experiences. Each component is carefully constructed to prepare candidates in line with the Virginia Standards of Learning over four years. The ‘General Education’ component is designed to meet general education goals such as ‘disciplined, informed and creative minds’. The Liberal Studies component provides a strong background in content areas and is offered on a high level of cooperation between different faculties. The ‘Pedagogical’ component of the programme is designed to develop a well-rounded school practitioner and includes ‘learner growth and development’, ‘instructional strategies and methods’, ‘assessment’, ‘media and technology’, ‘classroom management’ and ‘exceptional learners’. The Field Experience component immerses trainee teachers in real-world classrooms to observe and apply knowledge and skills (Longwood University, Virginia, 2005:1-4). A discussion of CBE characteristics in Chapter Two and Three reveals that CBE also incorporates ‘general education’ and ‘national standards’ to develop well-rounded teachers while also emphasising adequate ‘real-world opportunities’ for practicing skills and ‘co-operation with other partners’. Whether CBE is providing the same depth of content as the ‘Liberal Studies’ is open for debate but otherwise CBE seems to meet the other features of this teacher education model.

The teacher preparation model of the University of Louisiana is a ‘4 levels of effectiveness’ model. These levels focus not on the content of the teacher programme, but rather on the ways that teacher programmes are designed and implemented, the impact of the programme on prospective teachers’ performances and the growth in learner’s learning:

Level 1 - Effectiveness of planning of the teacher preparation programme.

Level 2 - Effectiveness of the implementation of the teacher preparation programme.

Level 3 - Effectiveness of the impact of the teacher preparation programme on the performance / accountability of candidates.



Level 4 - Effectiveness of the growth in learners taught by the candidates who completed the teacher preparation programme.

(Burns, 2005:1-2).

This model offers a rather strategic view on teacher education as opposed to typical more operational views of models. CBE appears to be in line with the 'levels of effectiveness' model since it values also systematic design, effective implementation, continuous evaluation of programme effectiveness and valid assessment of learning (cf. Chapter Three, Section 3.4). From a 'strategic model perspective' CBE appears therefore to serve as a useful theoretical framework to develop teacher education programmes.

Some universities in Washington, D.C. use an 'Interstate Performance-based model' where the standards are agreed upon by several states and described in terms of knowledge, dispositions and performances. The performance-based model thus describes what teachers should be able to do rather than the courses that they should take. These performances are developed around five standards, namely, (a) Teachers are committed to students and their learning; (b) Teachers know the subjects they teach and how to teach those subjects to diverse learners; (c) Teachers are responsible for managing and monitoring student learning; (d) Teachers think systematically about their practice and learn from experience; (e) Teachers are members of learning communities (Interstate new teacher assessment and support consortium, 1992:7-8). The University of New Orleans also follows a performance-based model, focussing on six roles of teachers (Sharpton, et al. s.a.:6). At Murdoch University in Western Australia a 'competency model' is followed that is based, as is the case with performance models, on teacher roles. The Murdoch model incorporates six roles related to 'effective teaching' and four roles related to 'teacher leadership' (Barrett, et al. 1997:4-22). Performance-based models focus thus mainly on the roles of teachers which inform the 'course content' of the teacher preparation programme. CBE as a theoretical framework clearly accommodates a performance model of teacher education as its programme design also departs from teacher roles although such roles differ to some degree from country to country (cf. Chapter Three, Section 3.4). Namibia has for example incorporated fourteen roles in its standards which seem to be more than the roles of the models above (Ministry of Education of Namibia, 2006:9).

At Pennsylvania State University the teacher preparation model of the College of Education emphasises that teachers are lifelong learners. The model is, furthermore, grounded in a responsiveness to research, best professional practices and the national professional standards. The five national standards are: (a) Educators are lifelong learners; (b) Educators understand learning and development; (c) Educators possess discipline knowledge and pedagogical understanding; (d) Educators manage and monitor learning environments; (e) Educators are members of multiple learning communities (Penn State College of Education, 1999:1-7). This model shows similar features than the Washington Performance-based model which features are also accommodated by CBE.

Purdue University has a 'Research and best practice model' for the initial and advanced teacher programmes. The *initial* teacher programme focuses on the following seven 'areas' which appear similar to 'roles':

- (a) Focus on the learner and assess growth and outcomes.
- (b) Adapt instruction to diverse learners.
- (c) Use current and emerging technologies.
- (d) Teach effectively by integrating content and pedagogy.
- (e) Understand individual development of students.
- (f) Practice inclusive education.
- (g) Collaborate with teachers, parents and community.

The fact that the 'general education' of teachers and the 'occupational roles' are not reflected could be criticised since that would have accommodated the perspective of education as including both 'education and training' (cf. Section 1.4.2; 1.4.3). The Purdue *advanced teacher* education programme appears to incorporate both general and occupational components as it focuses on the following six areas / roles:

- (a) Think critically and reflectively.
- (b) Synthesise knowledge.
- (c) Create knowledge.
- (d) Communicate knowledge.

- (e) Engage in professional development.
  - (f) Participate actively in their profession.
- (Purdue University, 2003:1-2).

Although one could question the separation of ‘occupational roles’ in the *initial* preparation of teachers from the more ‘general education’ of the *advanced* roles of the Purdue model, the main contribution of the ‘Research and best practice model’ appears to be that the roles / areas are based on a combination of real best practices and research. The development of relevant competence while reflecting on theory, are also advocated by CBE (cf. Section 2.4, 2.5) but perhaps in a more integrated way on all levels of education. In addition, the above roles of the teacher education models are complemented with teacher roles and exit outcomes of South Africa, Australia and Britain as shown in Chapter Three, Section 3.3.1.4. The range of roles of teacher education of the models above can also be related to the ‘model for designing teacher roles’ in Chapter Three, Table 3.5 which appears to accommodate the above mentioned roles.

Reddy, Menkveld and Bitzer (2007:4) also emphasise ‘general or graduate’ roles of teacher education such as: high quality knowledge; problem-solving; self-directed learning and the ability to transfer knowledge and skills from one context to another. In addition, Scannell (s.a.:8-9) identifies the following ‘American Council on Education’ findings concerning the characteristics of highly regarded teacher education programmes:

- (a) A concept of good teaching is apparent and consistent in courses and field experiences.
- (b) Pedagogical theory is taught in the context of practice. Theory includes growth and development, learning theory and subject content knowledge.
- (c) Extended field experiences (at least 30 weeks) are articulated and sequenced with theory. Field experiences are designed to enhance what is studied in theory and to provide candidates with the opportunity to apply and see theory in action.
- (d) Well-defined standards guide coursework and clinical experiences and their assessment.
- (e) School / university partnerships are based on shared beliefs and cooperating teachers have the abilities and dispositions to build on what the teacher education programmes presented to candidates.

- (f) Assessment is comprehensive and bonded to instruction and results are used to ensure the intended learning.

A focus on these features would in turn require a supportive learning environment and proper planning of the role, nature and organisation of teaching practice, in particular the policies and practices regarding the assessing of teaching practice performances of students. CBE appears to display very similar characteristics than those of highly regarded teacher education programmes and as such could serve as a useful theoretical framework to plan and implement teacher education programmes (cf. Section 2.4, 2.5).

In summary, many more features of effective teacher education programmes that vary in structure and conceptual format could be identified, implying that there is no one best format for teacher education programmes. Although the conceptualisation of ‘what a good teacher is’ varies in countries there are similarities across the models, e.g. similar basic roles of teachers such as being a facilitator of learning and assessment are analysed and formulated as exit and intermediary outcomes while the subject knowledge of teachers and the understanding of learners and the learning process are also recurring issues. Further similarities across models are the ability to apply different methods and technology; the importance of field experience / teaching practice and the recognition of cultural diversity. Moreover, ongoing professional development; the importance of partnerships and the realisation that the ultimate criterion of effective teaching is the growth in learners’ learning, are similar across teacher education models.

CBE appears (cf. Sections 2.3, 2.4) to accommodate most features of the above teacher education models since it also incorporates the common elements of the European models, for example, studies in educational sciences; academic subject studies; studies in subject matter methodologies and teaching practice. In addition, CBE advocates the input of partners into the design and delivery of teacher education programmes while emphasising learner-centredness and multicultural needs. Furthermore, CBE departs like performance and best practice models from national standards that are based on teacher roles to develop well-rounded practitioners. Moreover, CBE focuses like ‘strategic effective models’ on the systematic design, effective implementation, valid assessment and continuous evaluation of programmes. CBE also appears to display the characteristics of highly regarded teacher education programmes such as the

consistent application of concept of good teaching while guided by well-defined standards in coursework, clinical experiences and assessment. Against this background it might be concluded that CBE as a conceptual framework seems fairly applicable to the design and implementation of teacher education programmes although certain limitations remain (cf. Section 2.6.3).

One particular dimension that influences teacher programmes and that serves as an alternative way of classifying teacher education programmes apart from ‘programme structure’, is underlying philosophical assumptions or paradigms. The next section explores such paradigms.

### **2.2.2 Teacher education paradigms**

A paradigm in teacher education is constituted by a matrix of beliefs and assumptions about the nature and purposes of teaching, learning and education. It is, however, the purpose in particular that distinguishes one paradigm from another (Reddy, Menkveld and Bitzer, 2007:3). Reddy, et al. (2007:3) continue to elaborate as follows on the five main paradigms that could underpin teacher education models:

The *academic* paradigm emphasises the transmission of knowledge and the development of understanding. Some authors relate this orientation to concepts of ‘traditional or instructor-centred’ (Moore, 2006:1). The *practical* paradigm is mainly concerned with using school experience as a source of learning, while the *technological (CBE)* paradigm emphasises the acquisition of clearly defined competencies. More accurately, the CBE paradigm designs, develops, delivers and documents instruction and assessment in terms of its intended outcomes (Alexander, s.a. 1). The *personal* paradigm places the teacher’s personal development as central to teacher preparation. The *critical or social reconstructionist* paradigm regards teacher preparation as a crucial element towards creating a more just and democratic society. MacKinnon (2006:2) contends in this regard that education should not just prepare teachers to function in the world as it is, but also to effect change in the world. That implies that teachers should not only be conversant with best practices but be able to contribute to its development and as such act as ‘change agents’. Whatever the paradigm, all are concerned with developing teachers’ knowledge and skills related to competencies of ‘what a good teacher is’.

The latest influences on teacher education are linked to the technological / CBE paradigm and involve the establishment of National Qualification Authorities, National Qualification Frameworks and National Professional Standards for Teachers (cf. Carl, 2005:12; Ministry of Education of Namibia, 2006: 1-117). These latest developments impact on all aspects of teacher education models, for example: the degree of control of government regarding the design and implementation of programmes; the role and academic freedom of institutes offering teacher education; internships and professional licensing of teachers and specified roles and outcomes indicating minimum standards of programmes and ‘years’ of programmes are replaced by ‘NQF levels and credits’ of programmes. Criticism against such developments is discussed in section 2.3 and 2.6 of Chapter Two.

### 2.2.3 Teacher education strategies in developing countries

Hitherto, teacher preparation models and perspectives of *developed* countries were explored. Since Namibia is a *developing* county, such perspectives need to be examined as well. According to Bitzer (2002:157) teacher educators could explore the research of Craig, Kraft and Du Plessis (1998) that listed the following teacher education strategies (see Table 2.1) that were more and less effective in developing countries:

Table 2.1: **Teacher education strategies in developing countries**

<i>More effective strategies</i>	<i>Less effective strategies</i>
1. Grass-roots, bottom-up, teacher-centred reforms	1. Ministry of Education designed and implemented reforms
2. Teacher centres and teacher circles focus	2. University or normal school focus
3. Teacher designed and written curriculum materials developed from Ministry of Education guidelines	3. Ministry of Education designed and written curriculum
4. Major expenditure of time and money on in-service training	4. Major expenditure of time and money on pre-service training
5. Training primarily in school settings	5. Training primarily at universities, normal schools or ministries of education
6. Emphasis on actual classroom behaviours	6. Emphasis on certificates and diplomas

7. Long-term in-service programmes with extensive follow-up	7. Short-term in-service workshops with little or no follow-up
8. Teacher training as a life-long continuum	8. Teacher training as a one-time pre-service phenomenon
9. Classroom teachers as textbook, workbook, and curriculum guide writers	9. University professors with little or no school experience as authors
10. Appropriate technology and training based on the needs and economic level of the country	10. Inappropriate technology and training for the needs and economic level of the country
11. Teacher as community leader	11. Teacher as outsider, with little or no community involvement
12. Pre-service and in-service education coordinated and integrated	12. Pre-service and in-service education separate and unconnected
13. Teachers are given a chance to visit and observe other classrooms	13. Teachers are isolated and never given a chance to learn from other classroom settings
14. Teacher training begins with expressed teacher needs and demands	14. Teacher training begins with theoretical considerations, possibly connected to teacher needs and demands
15. Teachers are given a chance to upgrade their formal education, not just their pedagogical skills	15. Teachers are given little or no chance to further their education
16. Self-study and self-learning are seen as critical	16. Only knowledge mediated by the ministry or universities is acceptable

(Source: Bitzer, 2002:157)

The comparative format in Table 2.1 is rather self-explanatory and a few brief comments might suffice. From an overall perspective the table reflects the underlying belief that teacher effectiveness is a primary factor that accounts for learner's achievements. Related to this is the debate about how much of teacher effectiveness is due to *innate abilities* of students and how much is due to education *programmes*. It is furthermore clear from the table that the proposed strategies are very practical and do not focus on *philosophical* programme orientations such as

the prevailing categories of *humanistic, social reconstructionist, technological and academic* (McNeil, 1990:1). The following comments of the researcher point out how the indicated successful strategies in Table 2.1 relate to a CBE / technological paradigm.

Strategy one and two imply that teacher education content should correlate with their everyday activities and that the style should preferably be informal. These successful strategies are in line with the CBE features of reality focus and learner-orientation. Strategy three of the table could also be seen as relating to the CBE idea of involving stakeholders such as principals and teachers to be part of the development of teacher education programmes or national standards for the profession. Strategy four suggests in-service education is effective and one reason may be because theory is directly applied and thus learning through doing and experiencing apply – again typical CBE learning. ‘School settings’ emphasise *workplace settings* for education. Education in ‘actual classroom behaviours’ correlates with a CBE focus on real life roles and tasks. Continuous in-service education (point seven and eight) emphasises *continuous support* for teachers and life long learning. Having national CBE standards could promote the integration of pre-service education with in-service education and allow the latter to be recognised and certified.

Strategy nine recommends that teachers should be utilised to provide training or training materials. CBE also advocates involvement of workplace personnel to assist in teaching and assessment activities. Education in computer technology (point ten) is typically included in the job environment skills of a CBE programme for teachers. Education of a teacher in a wider role than the common ones found in programmes is an important guideline for teacher education programmes. Strategy thirteen reiterates the value of learning from peers in the workplace and is also common of CBE ideas.

The suggestion that effective teacher education programmes depart from real life roles and needs confirms once again the CBE perspective of the connection between life and education. It is however also suggested that teacher education programmes should move beyond the utility focus and initial levels (strategy fifteen).



These teacher education strategies appear to corroborate some of the features of teacher education models. Moreover, based on the above, CBE provisionally appears to be in tandem with successful strategies of teacher education in developing countries. CBE also appears to address African concerns regarded as part of *quality programmes*, such as ‘continuous consultation with relevant stakeholders’ and ‘effective management of education’ (Bollag, 2004:2) and *quality assurance*, e.g., a programme scope encompassing personal development; meeting national standards and curriculum evaluation (Dialogue on innovative higher education strategies, 2003:54).

The question whether CBE is appropriate for teacher education is, however, not yet answered conclusively. Further analysis of CBE is required to reach such a conclusion. The next section, therefore, attends to the first sub-research question of “How appropriate is CBE for the design and implementation of a teacher education programme at the University of Namibia?”

## **2.3 THE CHARACTERISTICS OF COMPETENCY-BASED TEACHER EDUCATION**

### **2.3.1 The origin of CBE teacher education programmes**

Hyland (1994:1) maintains that there is general agreement (referring to Tuxworth, 1989; Elam, 1971; Houston, 1980) that the first formal CBE programme is to be found in the performance-based teacher education movement in American educational circles in the 1960s. Bowden and Masters (1993:21) suggest that the USA search for ‘primary teacher education programmes’ in 1967 initiated the first CBE programmes. Harris, et al. (1995:40) are more specific and locate the first formal application of CBE in 1967 in the USA in the area of *primary and vocational teacher education* as well as *vocational education*. According to Hyland (1994:1) these performance-based programmes required closely defined and pre-specified outcomes that appealed to the American administrators whose concerns were public accountability and control of certification in professional teacher education. It is noteworthy to observe from the above facts that CBE started mainly in performance-based *vocational teacher* education and not in the typical secondary teacher education. In retrospect it is also understandable that the real life orientation of vocational education transferred to the training of vocational teachers. Before this first formal

implementation of a CBE programme however, political, social, economical and educational developments influenced the character of CBE.

### **2.3.2 The global expansion of CBE teacher education programmes**

According to Bowden (2000:3) CBE moved from USA primary and vocational teacher education programmes in the late 1960s to other professional education programmes (dentistry, engineering, law) in the USA in the 1970s and then moved further a field to vocational training programmes in Germany. Thus, at least on paper, Germany accepted the competency-based ideas for vocational training about two years after its appearance in the USA. The United Kingdom was much slower than the USA in their acceptance of CBE. It was not until the early 1980s that the potential of CBE for *technical education* was seriously looked at by the Thatcher government in order to address unemployment and prepare young people for work (Harris, et al. 1995:43; Burke, 1989:17). While the *political powers* promoted competency-based training in England, *educational leadership* via The Scottish Vocational Council (SCOTVEC) introduced a system of competency-based vocational qualifications to meet the needs of individuals and employers in Scotland in 1987.

In Australia federal funded research into CBET began in 1978-79. Around mid-1980 the movement began to gather momentum, still through federal initiatives. A strategic framework for the implementation of a competency- based vocational training system was published in 1990 and as such the CBET system had formally begun. By 1992 the Australian National Training Board started to advocate competency-based training. Once again, competency-based training ideas took hold in the field of *vocational training* and the expansion of competency-based education at Australian universities are still being researched and experimented with. Two prominent higher education institutions involved in this research are the Royal Melbourne Institute of Technology and the University of Technology, Sydney.

After administrative reforms in 1989 the New Zealand Qualifications Authority co-ordinated the developments of competency-based unit standards within an eight-level National Qualifications Framework. Every unit to be recognised nationally needs to be registered on the framework. The National Qualifications Framework is designed to be more extensive than that of other countries

in that it covers all post-compulsory learning: general, academic and vocational from senior secondary school to degree level (Harris, et al. 1995:48-50).

The Canadian Labour Force Development Board was the major agency for adopting national competency standards in 1993 to develop a flexible, efficient and equitable labour market (Harris, et al.1995:42). In fact, The School of Hospitality's Training Guides of March 1992 reflect that the Humber College in Etobicoke, Ontario, was already implementing CBE ideas (see Horne, 1992:8). At that stage (in 1992) such Colleges in Canada offered many programmes equivalent to technikon (vocational) programmes in South Africa. This means that the establishment pattern of CBE in many countries was maintained in Canada.

For most of the Asian countries like South Korea, Thailand, Sri Lanka, Burma and Colombo, CBET was seen a means to become industrialised and to enter the international market. Therefore, CBET *"...has been explored as a means of lifting the standard of vocational education and increasing participation in it"* (Harris, et al. 1995:47). It is noteworthy that in South Africa, Namibia and Australia it was also *political powers* as opposed to *educational powers* that initiated the introduction of competency-based education.

The CBE paradigm with its economic development focus also appealed to Namibia. The official acceptance of competency-based education and training in Namibia occurred in 1996 with the promulgation of the National Qualifications Authority Act, 1996. All educational and training institutions must register with the National Qualifications Authority and their programmes are evaluated according to a set of criteria favouring competency-based ideas, such as occupational standards and competencies (Government Gazette of the Republic of Namibia, 1996:1-5). With regard to teacher education, the National Qualifications Authority produced 'National Professional Standards for Teachers' towards the end of 2006, assessment guidelines for the standards, qualification level descriptors, a two year licensing internship after graduation and three career development alternatives of a mentor teacher, a support teacher and a management career path (Ministry of Education of Namibia, 2006; National Qualifications Authority, 2007, Section D and F).

In summary, CBE programmes at post school level appear to be in the area of *primary and vocational teacher education* which took place in 1967 in the USA. It appears that the expectation about the utility role or relevance of education at different levels is becoming stronger in many international educational contexts. It is also apparent that politicians rather than educators promote CBE programmes because of the perceived additional wide-ranging benefits of CBE. Examining the expansion of CBE reveals that higher education practices started in the 1960s in the USA with vocational teacher education programmes. Germany was the second nation to implement CBE ideas with the establishment of their dual system of vocational education in 1969. Australia implemented CBE designs in 1987 and the UK in the 1980s. In 1989 New Zealand adopted competency standards for all levels of education and in Canada competency standards were adopted in 1993. In the late 1990s CBE expanded to South Africa and Namibia.

The above outline of CBE expansion indicates that CBE programmes have spread remarkably across the world since 1967. However, it appears that the university community is not in agreement about the appropriateness of CBE in higher education partly owing to the lack of research evidence about CBE as well as the political way in which it is often established. Against this brief background sketch of CBE the next logical step might be to take a closer look at the characteristics of CBE models as applicable to teacher preparation programmes.

### **2.3.3 CBE model variations**

There are three main variations in CBE models. According to Spady (1994a:62-66) the three variations in CBE models are the 'traditional', the 'transitional' and the 'transformational' models. The traditional model defines curriculum and learning in terms of subject content. To be successful, learners have to engage mentally with content on lower cognitive levels while in classrooms. Competencies as the ability to do things receive little attention. This model is thus close to traditional teacher-centred teaching where a curriculum is not based on pre-specified outcomes as competencies. Malcolm (in Jansen and Christie, 1999:95) refers to a content-based, behaviouristic learning theory-oriented and bureaucratically managed education as a 'clockwork' orientation.

The transitional model focuses on competence and higher cognitive levels of learning. The curriculum incorporates an interdisciplinary and thematic approach to content selection, organising and delivery. Exit and learning outcomes that cut across disciplines exist and creative learning and projects provide opportunities to develop understanding, competencies and accountability for learning.

The transformational model of CBE represents the most developed and complex model. The outcomes capture understanding and competencies beyond subject content such as life roles that matter for individuals and society in the long run. Competencies regarding citizenship such as, communication and thinking, are developed and assessed in real or simulated contexts. A focus on such broad life roles implies that the transformational model prepares learners not only to fit into the current contexts but also to transform contexts to create new futures. The ability to transform society is thus developed. Malcolm (in Jansen and Christie, 1999:95) refers to an integration of knowledge and skills, constructivist learning theories, learner-centred curriculum, post-modernism views and participative management of education as an ‘organic’ orientation.

It is clear from the above that the variations between the three models arise especially from the nature of the outcomes: a focus on short term ‘learning content outcomes’ as opposed to longer term ‘exit life role outcomes’. In Namibia a sub-vision for the education and training system is to have an ‘fully integrated’, ‘unified’ and ‘flexible’ system “ that prepares Namibian learners to take advantage of a rapidly changing environment and contributes to the economic, moral, cultural and social development of the citizens throughout their lives” (Namibia Vision 2030, 2004:89). This vision implies that Namibia favours the transformational CBE model and local teacher education programmes should take note of this.

Although a transformational model has a particular focus on outcomes there are other generic features of a CBE model that Namibian teacher preparation programme designers need to understand. The next section examines such generic features of CBE models.

#### **2.3.4 Generic characteristics of CBE models applicable to teacher education programmes**

The concept of CBE is already defined under Section 1.4.1. However, the characteristics of CBE impacting on programme design and implementation need further clarification. Spady (1994a:1-17) describes the characteristics of CBE comprehensively. Although Spady characterises CBE for the school context, the essential features of CBE are made very explicit and higher education curriculum designers can explore the application of these elements in their settings.

In the researcher's view there are a few philosophical perspectives of CBE that underpin its secondary features. The secondary and more recognisable surface features are commonly listed as follows: Janish, (1997:6) points out that CBE is a coherent, *logical system* linking together *national and personal* education needs, having clearly specified outcomes, and a *teaching and administrative system* to achieve these outcomes. Foyster (1990:24-25) and Houston and Howsam (in Harris, et al. 1995:19) describe CBE in terms of an *occupational analysis* to produce *public outcomes* that focus strongly on *competencies*; different modes of instruction and learning activities; appropriate *competency assessment* procedures and *reporting of assessment* results include competencies; and maintenance of *detailed* outcome and assessment *records*. A description of CBE in *university contexts* by Bowden and Masters (1993:13-19) involves very similar secondary features:

- *A focus on outcomes*
- *Greater workplace relevance*
- *Outcomes as observable competencies*
- *Assessments as judgements of competence*
- *Improved skills recognition*
- *Improved articulation and credit transfer*

Such secondary features are taken into consideration when CBE characteristics for teacher preparation in higher education are proposed in the next section, starting off with the philosophical perspectives of CBE.

#### **2.3.4.1 CBE philosophical perspectives**

The following characteristics of Spady (1994a:6-11) and Boschee & Baron (1993:2-4) could be viewed as “philosophical characteristics”:

- ❑ Education is about developing people in the first place, not about teaching subject knowledge.
- ❑ Education is holistic and it should thus encompass development of the head, hand and heart.
- ❑ Education, no matter the level, should integrate theory and practice. Bowden and Masters (1993:17) emphasise in this regard the role of knowledge in competencies and the influence of the context on competencies.
- ❑ Education should be a successful experience for all, not just for a few elite learners. Spady (1994a:10) identifies *high expectations for all to succeed* as a CBE characteristic. This characteristic entails increasing the challenge level to which students are exposed and raising the standard of acceptable performance. Experience shows that teacher expectations have a positive motivational influence on students. High expectations could result in more students achieving higher levels of performance and thus standards could be raised.
- ❑ Multiple instructional strategies, enough resources and flexible time would contribute to success for all.
- ❑ Most learners could perform well if they are provided with quality instruction, support and flexible time. Boschee & Baron (1993:4) emphasise that the support should develop students to become self-directed students.
- ❑ As favourable learning conditions make it possible for all learners to perform to the best of their abilities, the focus and management of institutions are thus partly to blame for learners' poor performances.
- ❑ Exit outcomes of significance regarding occupations are specified and the programme is designed down from them. In this regard Boschee & Baron (1993:3) emphasise that outcomes are future oriented, publicly defined, learner-centred, focusing on life skills and context, characterised by high expectations for all learners and sources from which all other educational decisions flow.
- ❑ Learning is process and product driven. The product being knowledge and skills. For Boschee & Baron (1993:3) learning is typically facilitated carefully toward achievement of the outcomes, characterised by its appropriateness to learner's needs, interests and developmental level and experienced-based for maximum application of the knowledge.

- Assessment is criterion-referenced, appropriate to the learning, its life context, and the learner advancement is based on demonstrated achievement of outcomes rather than on seat time.

### ***Comments on CBE “philosophical views”***

Education as the *development of people* to cope with life as citizens and employees is probably the most distinguishing philosophical perspective of CBE. This feature has several implications for programme design and implementation. For example, occupations are analysed into roles and tasks; stakeholders in education have an input in programmes and outcomes are related to economic, social and political needs of a country. This proposed ‘relevancy’ implies a *utility* function of higher education that is in conflict with the traditional *general* education focus. The CBE view of ‘relevant education’ has implications for the organising of knowledge in programmes. The other philosophical perspectives presented above such as equity, deep and practical learning, multi-modal instruction or criterion-referenced assessment, mostly do not pose unacceptable views for universities the world over. Another distinguishing broad philosophical perspective of CBE is the one of *success for all*. This view embraces a *learner-centred focus* that involves student learning supportive designs of all the programme components. University application of ‘success for all’ could encompass the provision of adequate teaching-learning resources; clear outcomes; self-directed contracts; flexible pacing and assessment; different modes of instruction and experiential learning. A possible negative implication of this ‘success for all’ could be that more attention is paid to re-teaching poor performing students rather than providing enrichment to high achievers (Towers, 1994:627). This could mean that the potential leaders of the future are not challenged sufficiently beyond minimum standards. In addition, Towers (1994:627) is concerned that teacher education faculties focus on helping all students to succeed and neglect their role to ensure that students who are not well equipped to become teachers do not pass the selection process. Furthermore, the actual implementation of some philosophical features is costly and time-consuming and poor provision of such features could mean CBE is not going to deliver quality teachers.

Against the background of the teacher education models (cf. Section 2.2.1) it is clear that the CBE philosophical views reflect a ‘student-centred’ and ‘learning community-centred’ perspective rather than an ‘instructor-centred’ one. In addition, CBE strives for success for all



learners irrespective of social status (elite) or racial origin (cultural diversity) like as in the case of models at McGill University and the University of Calgary in Canada.

The mentioned “philosophical views” of CBE might influence the nature of the following characteristics of CBE in teacher education which are briefly addressed in the following sections.

#### **2.3.4.2 A focus on specific outcomes**

It was pointed out in Chapter One (cf. 1.5.2, 1.5.3) that competency-based education focuses on what type of student should emerge from a programme or university rather than on what discipline content should go into a programme. CBE programmes thus compel educators to examine what is truly essential for their students to accomplish in limited time frames of the rapidly growing body of knowledge and the increasing educational demands of the Information Age (Spady, 1994a:29). *Less* content can be worth *more* if the ‘less’ is better understood and abilities and skills learned can be applied to other subjects or real life issues. Most academics would agree that covering as much content as possible in the time available is not a guarantee as to how much students actually learn. The main reason for having such clear outcomes is that CBE focuses on specialised occupational preparation as opposed to a more general education of subject-based programmes. Outcomes represent what knowledge, skills and attitudes are needed for the student to be absorbed into the world of work (Janish, 1997:6).

According to Spady (1994a:2) clarity of focus on exit outcomes helps educators to establish a clear picture of the learning results they want students to exhibit. Having clear outcomes for programmes not only directs the design of the curriculum components, but communicates to students and other stakeholders expected learning results that enable them to plan and think purposefully in line with stated lesson outcomes. The complete descriptions of the outcomes guide lecturers and students alike in their teaching and learning. This clarity reduces stress, misunderstandings, time or money wasting and supports the achievement of higher quality education. The strong focus on specified outcomes, the learning activities to achieve these outcomes and the assessment to monitor the achievement of the outcomes, promote the quality of the education because the planned and actual results can be compared. However, although clear outcomes meet requirements of accountability in terms of students’ achievement, management

and fiscal transparency, the selection and formulation of outcomes are riddled with challenges as will be discussed in Section 2.5

According to Bowden and Masters (1993:13) this focus on outcomes as results is in contrast with traditional concerns of educational programmes with inputs such as methods of student selection, length of courses, class sizes and so on. Prior to CBE the importance of objectives were advocated by Mager (in Curzon, 1985:88) who wrote: *“Instructors simply function in a fog of their own making unless they know what they want their students to accomplish as a result of their instruction.”* Competency-based education is not unique in its focus on outcomes, but it differs from other approaches in its concern with outcomes *relevant to employment*. Tuxworth (in Burke, 1989:13) highlights the following features of outcomes: They are based on an analysis of the professional roles; outcomes describe the knowledge, skills and attitudes thought to be essential to the performance of roles and tasks; competency statements facilitate criterion referenced assessment; outcomes are subjected to continual validation procedures; outcomes are specified and made public prior to instruction. Jessup (in Burke, 1995:34) points out that the CBE model is outcome-led, not outcome dominated to the exclusion of everything else.

Institutional programmes should ensure that the public does not perceive professionals as incompetent. Since the rights of the individual in society are emphasised more and more professionals are often sued for being incompetent. Much of this could be prevented if universities would cooperate with professional bodies and other stakeholders in order to incorporate their needs in programme outcomes. Even complex goals such as ‘learning to philosophise’ in Philosophy of Education or ‘developing of emotional intelligence’ in Educational Psychology can be converted into specific learning outcomes. Alexander (s.a.:7) contends that the focus on values and dispositions as part of competence promotes the emphasis on ‘affective domain’ outcomes even though such outcomes might be difficult to assess. Compared to the teacher education model features (cf. Section 2.2.1) such as those of the Reflective Teaching Model of The Eastern Mennonite University and Longwood University in Virginia that follows an ‘Interdisciplinary Teacher Preparation Model’, CBE outcomes are rooted likewise in the ‘General Education, Liberal Studies, Pedagogy and Field Experiences’.

The next section addresses the question of how the content selected according to outcomes could be organised.

### **2.3.4.3 Modular organisation of content**

#### *Historical organisation of content*

Philosophers and educators have long searched for coherent ways of organising knowledge. According to Posner (1992:146) persons like Aristotle, Descartes and Comte attended to this epistemological dimension. Aristotle for instance organised all studies according to the purpose that each serves and the nature of the subject matter with which it deals. He divided knowledge into just three classes: The theoretical, the practical, and the productive. The theoretical – in descending order, theology or metaphysics, and physics – is worth knowing for its own sake and consists of subject matter that is unalterable by human beings. The practical – ethics and politics, the latter including economics and rhetoric – is aimed at doing and concerns matters of deliberate choice of conduct. The productive knowledge category – the arts and engineering – is concerned with making things and giving life to forms (Posner, 1992:146). Posner further suggests that the modern-day distinction between the academic and the vocational curriculum is suggestive of this ancient classification (Posner, 1992:146). What is important to note is that Aristotle had already suggested a combination of sections of subjects because it serves a specific purpose.

According to Burke (1995:171-172) modular developments in the UK first started in the secondary schools in the 1980s with the introduction of the General Certificate of Secondary Education. Modules were introduced to provide for new kinds of learning and accreditation. Burke further points out that modularisation as a new way of organising the curriculum content only developed in the UK in the early 1990s. Barnett and Coate (2005:37) point out that the responsiveness of higher education to market and consumer needs is in line with the perspective of the ‘curriculum as consumption’. Modularisation has become a key signifier of programmes designed for consumption.

#### *CBE programmes consist of modules*

As indicated previously (Section 1.5.2), CBE perspectives of what higher education is all about involve bridging the gap between education and training. This implies an integration of

theoretical and practical content. Such integration creates challenges as to how programme theory and practice could be organised. Bowden and Masters (1993:25) suggest that occupational analysis to create competency standards often results in the combination of discipline knowledge and skills. These ‘new subjects’ are referred to as modules and include multiple learning outcomes (State Training Board of Victoria, 2000:1-2). Modules are sequenced logically and a student is often required to master prerequisite modules in order to be admitted to further modules (Blank, 1982:148). CBE programmes consist of *compulsory* and *optional* modules. The latter allows for the pursuit of personal occupational interests or serves a general education purpose. The criticism against modules is that they are perceived to fragment discipline knowledge and result in a narrow focus (Kerka, 2000:1).

### ***Modules consist of units***

Burke, (1989:13) points out that CBE instruction is organised into ‘units of manageable size’. A unit consists of a few competencies or ‘elements’ that could be clarified by performance criteria and range statements (Jessup, 1991:37). The sequence of units within modules is carefully planned according to a logical development of prerequisite knowledge and skills.

The theory – competencies integrated into modules of an interdisciplinary nature and the design of programmes based on modules deviate from the traditional subject discipline programmes and consequently has elicited criticism of narrowness and fragmentation (Kerka, 2000:1). The question should be asked why differently organised knowledge could not be valid. If knowledge is seen as valid only if it is organised according to a traditional subject structure, the underlying assumption is that the value of knowledge lies mainly in its structure and not in its functions. This would be debatable. Obviously the rearranged knowledge is still valid and functional, it is only in the minds of subject-based proponents that tampering with the disciplines is making it less valuable because ‘half must be less than complete.’ Creativity is typically associated with unorthodox views, structures or combinations. Yet when knowledge is combined unconventionally in a CBE programme, it is not considered as a creative perspective. It should be recognised that the logic of CBE does not allow for non-sensible compiling of content, but rather of knowledge units that are coherent in meaning and purpose.

The rule seems to be that one can deviate to some extent in a single subject but this is unacceptable if the organisation of knowledge is too drastically different or is applied to a whole curriculum. This appears as double standards and a clinging to tradition. CBE curricula select and organise subject content according to what is desirable for a specific programme and this is seen as a drastically different organisation of subject content. Posner (1992:152) also observes the trend that highly stratified knowledge counts as legitimate knowledge and has more status in the eyes of academics. CBE includes in programmes the same ‘stratified knowledge’ from disciplines, the difference is, however, that not *all the available* knowledge is included, but only subject knowledge that is *needed* for achieving specific programme outcomes. For example, instead of including both Philosophy of Education I and II in a teachers’ programme relevant topics could be integrated into one module.

When related to the performance-based teacher education models CBE as a theoretical framework clearly accommodates a performance model as its programme design also departs from teacher roles which inform the ‘course content’ of the teacher preparation programme although such roles differ from country to country.

#### **2.3.4.4 Systematic design**

The ‘systems approach’ involves the interaction of all elements of a system to bring about the desired results. In education the design, implementation and evaluation of a programme are thus elements that interact towards achieving outcomes (Dick and Carey, 1990:4). The basic steps of a competency design are according to a ‘sequential analytic’ or ‘systems’ approach are as follows:

*Step 1: Empirical analysis of needs.*

*Step 2: Determination of needs priorities.*

*Step 3: Specification of objectives in the form of behaviour or performance objectives.*

*Step 4: Selection of content to fit in with the specified objectives.*

*Step 5: Definition, description and classification of instructional procedures and learning activities.*

*Step 6: Identification of quantifiable evaluation methods. (Carl, 1995:54)*

These steps firstly allow for an analysis of the need for a specific programme. Once the need for a programme is established, the duties and tasks of the job are identified and prioritised. A 'system design' appears to correlate with a definition of quality as 'fit for purpose'. The duties and tasks are then translated into 'objectives' and knowledge is selected to fit the skills. Again, a system design suggests a change in the traditional programme design sequence. Knowledge is now selected on the basis of duties / roles unlike in the past where discipline knowledge determined the development of subjects. Assessment guidelines are included in module descriptors but the inclusion of possible instructional guidelines would be debateable from an 'academic freedom' point of view. The assessment should measure whether the objectives and especially the competent performances are attained.

### ***Design down***

According to Spady (1994a:18) CBE programmes are *designed down* from the exit outcomes that are based on the national standards. This entails curriculum designers and lecturing staff firstly determine what they ultimately want students to know, to do and to believe. From these end results they start mapping back the desirable outcomes. This mapping back process employs categories of outcomes. The culminating or exit outcomes define what all students should be able to do (such as what roles / duties in an occupation) at the end of their programme. The enabling outcomes are the building blocks of the exit outcomes. Discreet outcomes can be identified that are "nice to know" but not essential to the exit outcomes (Spady, 1994a:18).

The *design down* principle establishes a structured programme with enough information provided by the outcomes to support planning for further curriculum design components such as learning opportunities, assessment and learning facilitation. CBE features can be applied in structured or flexible ways. Excessive structuring can however bog down staff in unnecessary detail and impede teaching and learning success (Spady, 1994a:21).

As in the case of the teacher education model features of the University of Louisiana that applies a 'levels of effectiveness' model, CBE displays similar features as it also values systematic design, effective implementation, continuous evaluation of programme effectiveness and valid assessment of learning

### 2.3.4.5 A CBE teaching and learning perspective

In order to understand a particular approach to education the ‘teaching-learning perspective’ needs to be examined. The following paragraphs allow a description of the CBE ‘teaching-learning perspective’ that in essence emphasises nothing less than a learner-centred perspective. The teaching-learning issues that are clarified are: expanded learning opportunities; instructional modalities; role of the lecturer; transferability of learning; motivation and constructivist learning characteristics.

According to Spady, (1994a:12-15) the CBE *expanded learning opportunity* involves five dimensions concerning how to expand learning opportunities. These dimensions are ‘time’, ‘methods and modalities’, ‘operational principles’, ‘performance standards’ and ‘curriculum access and structuring’. The time dimension consists of aspects like time allowed for sections to be taught and duration and frequency of learning opportunities. Secondly, lecturers should attend to different learning styles and intelligences by varying methods and modalities. Thirdly, the operational dimension of opportunity encompasses aspects like having clear outcomes, high expectations but also implementing principles consistently, systematically and creatively. Performance standards as a fourth dimension of expanding opportunities, is embedded in how performance standards are defined and implemented. Criterion-based assessment for example, is implemented by CBE and this define standards the same for all students and impose no limits on how many can reach a given performance level. The fifth dimension of *access and structuring* suggests that opportunity is tied to having access to essential learning experiences and resources. Furthermore the sequence and repetition as part of structuring of critical learning experiences are crucial for learning success. Van Niekerk & Killen (2000:93) concur that students have different characteristics and dispositions that influence what and how they learn and responding to this is part of a learner-centred perspective. If the dimensions of the ‘expanded learning’ are not implemented well the probability is high that a CBE programme would be no better than the next programme.

From the above ‘philosophical features’ (Section 2.3.4.1) of CBE it is apparent that the CBE beliefs about human learning involves beliefs that most learners could perform well given adequate time and support. Such support would include *instructional modalities* promoting active

learning. Boschee and Baron (1993:80-88) point out that CBE incorporates authentic learning, problem-based learning, video-based learning, computer technology and group learning. To the researcher the 'authentic' learning would include role play of interpersonal skills, demonstration of values and competencies as well as exhibitions and portfolios. These features reflect perspectives of the cognitive learning theories as well as the humanistic learning theories, thus moving beyond behaviouristic theories.

Hendricson and Kleffner (1998:185) emphasise *instructional modalities* of CBE programmes such as: case studies and experiential methods, self-assessment and lecturer feedback, the application of OSCE's (Objective Structured Clinical Examination), and a student mentoring system. Central of course to the instructional modalities is training in the *workplace or simulated situations* although this involves challenges such as the appointment of workplace assessors; the reliability of workplace assessment; the weight of workplace education; the time consumed by workplace training; the availability of relevant workplace settings and the costs involved for students, educational institutions and employers alike. The extent to which these challenges are addressed by a teacher preparation programme will influence the effectiveness of a CBE programme.

Glasgow (1997:31) states that lecturing implies *the lecturer* to be the main source and transmitter of information and stays in control of the learning process. There is pressure put on the lecturer to cover, by means of talk and chalk, the prescribed amount of content within a specified time frame in order for students to be prepared for examinations. This results in students being more passive as opposed to CBE facilitation of learning (Alexander, s.a.:2). To facilitate learning means to help and support learning in any way possible (see Hendricson and Kleffner, 1998:184,189), but this process requires learners to take more responsibility for their learning success. The CBE lecturer as facilitator limits the transmission of knowledge through switching often from the deductive to the inductive strategy and by applying interactive and experiential methods. Van Niekerk & Killen (2000:94) emphasise that learners should be informed about the expected learning outcomes and a focus on understanding involves more than the accumulation of unrelated facts.

### ***Transferability of learning***



Bowden (2000:12,16) explains the promotion of transferability in CBE by indicating that the preparation of students to deal with unknown future situations and challenges requires students to be able to discern cognitively the different elements of a situation and understand the relations of the parts to the whole as dictated by a specific context. This would then, on the one hand, require the promoting of a *deep approach* to learning and an effective way of analysing situations. The effective analysis of situations means all aspects of the situation which are necessary for handling it are discerned and are taken into consideration. This implies understanding of relevant principles, underlying theory and competencies involved. During teaching practice students could reflect on *why* they need to perform in a certain way and *how* their performance would change if *circumstances were different*. That would help them to be able to transfer competencies to new contexts because not all possible contexts are normally experienced. According to Van Niekerk & Killen (2000:97) understanding is enhanced when knowledge is applied and as such the theory-practice dichotomy is modified to a theory-practice cycle, where both promote the transfer of learning. Jessup (1991:69) points out another form of ‘transferability of learning’ in the sense that credit for units and modules could be accumulated and accredited.

A further two dimensions of CBE teaching-learning perspectives are ‘motivation’ and ‘similarities to *constructivist learning characteristics*’.

### ***Motivation as part of a CBE teaching-learning perspective***

In CBE, learner-centred features such as active learning opportunities and real life relevant outcomes as part of the ‘*curriculum as learning support*’ enhance their learners’ motivation (Burke, 1989:104-105). Van Niekerk & Killen (2000:94) emphasise that motivation is the first step in learning and that experiencing success is important for keeping motivational levels high. Open *access* to learning through recognition of prior learning and learning in a wide range of *locations* and through different *methods* could also contribute to motivation of students (Jessup, 1991:117).

### ***Similarities with constructivist learning characteristics***

The concept ‘constructivism’ is applied to both theories of learning and epistemology, that is, to ‘how people learn’ and the ‘nature of knowledge’ (Abdall-Haqq, 1998:1). Constructivists, following the learning theory ideas of earlier proponents such as Dewey, Piaget and Vygotsky,

maintain that individuals construct their own meaning and thus their own subjective world through interaction with sources, data and experiences. This means that there is no independent Platonic reality out there reflecting the ‘true’ nature of things. Learning as the search for *meaning* requires understanding concepts rather than isolated facts; learning, furthermore, needs ample time; is contextual; is a social activity; motivation as a key component in learning; is characterized by active inquiry, search for meaning involves problem solving and collaboration with others (Adobe Go Live, s.a.: 1-4).

The constructivist *epistemology* entails the following: Knowledge is not independent of the knower. Meaning is constructed by the learner or community of learners. The rational subject-based way to organise knowledge of reality is now adapted to provide learners the opportunity to construct their own meanings of the world. This implies learners are not merely expected to learn the subject-based reality prescribed, but could interpret the reality from a personal and current social perspective (Adobe Go Live, s.a.:1-2). An overemphasis on subjective interpretations of current realities has of course its limitations.

A comparison of the CBE learning and the constructivist learning reveals core similarities such as a focus on the connection between living / society and education; that the aim of education is primarily the development of people; that the learner is a primary focus; that the learning process involves active learning and the understanding of meaning as opposed to mere facts. Based on these similarities and other features of CBE learning described above, it would appear that CBE complies with a constructivist learning and epistemological view.

In relation to the teacher education models, for example the *initial* preparation of teachers of the Purdue ‘Research and best practice model’, CBE also focuses strongly on developing the teaching-learning effectiveness of the teacher.

#### **2.3.4.6 Broad based assessment**

Since CBE outcomes focus strongly on competence, it stands to reason that mastery of such performances should be assessed. CBE assessment poses complex challenges as the following paragraphs illustrate.

### ***Outcomes rather than assessment direct CBE***

It was stated earlier (cf. 1.4.5) that *outcomes* and not *assessment*, direct the CBE system although there is a direct link between outcomes and assessment. The outcomes capture what individuals should achieve and these ends are carefully assessed. In the case of CBE these *ends* include demonstration of knowledge and occupational and general (also referred to as *critical* or *key*) competencies. In this manner CBE demystifies assessment by providing students with a clear picture of what needs to be learnt and the dichotomy between knowing and doing is broken down (Argüelles and Gonczi, 2000:30). Some might view this providing of students with clear outcomes as ‘spoon feeding’ or ‘examination coaching’.

The formulation of outcomes must be specific enough to indicate what will be accepted as evidence of having achieved the outcome. Verbs such as ‘describe’ or ‘analyse’ are used to identify both the level of thinking and the level of assessment. Tennant argues (in Hyland, 1994:52), however, that those common behavioural objectives are not suitable for the assessment of competencies because:

- (i) *behavioural indicators of competence can rarely be determined in advance;*
- (ii) *the emphasis on terminal outcomes undervalues the importance of the learning process;*
- (iii) *not all learning outcomes are specifiable in behavioural terms;*
- (iv) *learning may be occurring which is not being measured* (Hyland, 1994:52).

To the researcher there are possible answers to Tennant’s opinions. As far as (i) is concerned it is acknowledged that the context may require a lesser or stronger emphasis of one or two indicators of a particular competence, but the main features of such a competence are identifiable, even in advance. In regard to (ii) it was indicated earlier (cf. Section 2.3.4.1) that CBE does not undervalue the learning process. Thirdly, (iii) CBE has moved beyond accepting only behaviourist objectives (cf. Section 2.5). According to Jessup (1991:128) some finer aspects of competence attributes and values may be difficult to assess, however, inclusion of explicit theoretical and workplace assessment standards are an improvement on mere theoretical assessment. This type of problem is not unique to CBE but to all approaches to education. CBE furthermore employs different ways of assessing, e.g. observations, oral questioning, simulations, workplace and self-assessment (Jessup, 1991:58,135). In regards to (iv) there would always be

learning that might not be assessable. The hidden curriculum, for one, promotes a broad range of learning that is not being “measured”. The point is however that assessment tries to “measure” accurately those formal objectives that were *stated and taught* (also see Posner, 1992:82).

### ***Scope and nature of assessment***

As indicated above, CBE emphasises assessment of *theoretical understanding* as well as of *performance in workplace and institutional settings*. Wood and Power (1987:410) point out one of the core difficulties of CBE assessment when they observe that assessment of ‘observable performance’ does not capture fully the degree of ‘competence’ that incorporates unobserved knowledge and dispositions. Validity of performance assessments needs to be enhanced through questioning students about the *principles* explaining the nature of the performance or about the variation in their response if *variations of contexts* occur. In accordance with Wood and Power’s observation Jessup (1991:57) maintains that the ideal is to assess understanding simultaneously with the performance rather than *separately*. According to Gonczi, Hager and Oliver (in Bowden, 2000:7) this ‘*integrative assessment*’ is on a higher level as ‘*additive*’ where knowledge assessment is usually undertaken separately from performance assessment. According to Kerka (2000:2) *integrative assessment* sees competence as a complex combination of knowledge, attitudes, skills, and values *displayed in the context of task performance* (see also Fletcher, 1998:86).

Integrative assessment furthermore recognises levels of competence such as entry / novice, experienced or specialist and that competence is *not* trained *behaviour* but *thoughtful capabilities* (Kerka, 2000:2). Once students have proven their competency level in particular areas these skills and knowledge are not retested again and time and effort for all involved in assessment are saved.

Workplace assessment, judged against elements of competence by managers and supervisors can be carried out quite accurately (Jessup, 1991:51). The validity of such judgements are, however, linked to the criteria and rating scales of an assessment instrument. The participation of practicing teachers and departmental heads in the assessment of students during ‘Teaching Practice’ is in line with workplace assessment. If these teachers or lecturers are not trained in the application of CBE assessment the validity of the assessment could be low. Wolf (1995:130-

137) also addresses the feasibility of implementing CBE assessment in terms of institutional time and costs and reliance on commitment and ability of workplace personnel. This is a valid concern but in teacher education universities have applied *workplace assessment* with a fair degree of success. The researcher observed during his visit to Australia that some universities in Western Australia meet the workplace assessment challenge by *training and accrediting teachers as mentors* for their visiting student teachers. This practice is not yet established in Namibia. These teacher-mentors even receive a fee for their contribution in guiding and assessing students.

The idea of broad based assessment could be extended to the *flexibility* of CBE assessment. In theory, CBE assessment allows for flexible scheduling of testing (Wolf, 1995:21; Boschee and Baron, 1993:4). This means students can take tests and exams when they feel they are ready and do not have to follow the regular schedule of assessment. If the minimum requirements are not met on continuous assessments, students get a second chance to attain the required standards (Jessup, 1991:116). Both these practices have serious practical implications and inadequate management might cause serious negative consequences for student promotions and graduation.

### ***The assessment of competence***

The assessment and accreditation of competence have been one of the most controversial issues of CBE (Bowden and Masters, 1993:14). The ‘systematic design’ delineated above indicates that outcomes drive the design and assessment monitors the attainment of the outcomes. The assessment of competence involves developing performance criteria, gathering evidence and making judgements (Foyster, 1990:34). Assessment of performance ideally takes place in workplace settings or simulated workplace settings (Hyland, 1994:35). To conduct assessment in the workplace will obviously not always be feasible, but the challenge is to cooperate with employers or schools and work out strategies about who will be assessed, what will be assessed and how students will be assessed. Different types of laboratories at universities provide conditions where competencies can be practised safely and without the logistics involved of visiting work situations. Different types of evidence to prove competency can be accepted as long as the evidence is sufficient, meets the standards (valid) and is authentic (produced by the individual concerned) (Fletcher, 1998:86-87). The financial, logistical and time implications of the assessment of competence could, however, constrain the proper implementation of

assessment. In that case the quality of education achieved by a programme could be seriously hampered.

### ***Forms and types of broad based assessment***

Assessment takes on a more significant role in education systems that are outcome-led. Assessment becomes an integral part of the CBE *learning process* and is not merely used for grading. More forms of assessment, for example, oral, self, peer, portfolios, contracts, workplace, on top of pen-and-paper tests are normally introduced (Boschee and Baron, 1993:108). The assessment of students' performances and competence under realistic work conditions (Hendricson and Kleffner, 1998:189) is a positive feature but also poses some difficulties. Apart from time and logistic difficulties as indicated previously, the use of checklists and rating scales might produce invalid assessments of competence if they are not designed well. On the positive side, Jessup (1991:116) points out that because the outcomes and their specified levels of attainment are known to students and assessors alike, self- and peer-assessment could play a greater role in autonomous learning of students.

The use of multiple validation opportunities is related to *continuous or summative* assessment (Toohey, Ryan, et al. 1995:94). This ensures assessment of smaller chunks of content so as to enhance learning success and it takes much of the threat out of CBE assessment since passing is not based on one-off, summative tests or examinations. Both formative and summative assessment applies criterion- referenced criteria (Foyster, 1990:27). All students who meet the criteria are graded according to their achieved results and percentages are not adjusted to administrators ad hoc-norms of passing for a specific year or subject.

### ***CBE assessment and quality***

CBE programme outcomes represent selected national standards as perceived quality content to suit a programme and level of education. For CBE proponents such 'quality content' includes academic education as well as preparation for employment (NCVER, 1999:1-2). The quality promoted by assessment is related to several other aspects as well: Continuous assessment and various assessment formats (Boschee and Baron, 1993:108) could promote different levels of *understanding* and *competence*. If the assessment system is individualised the flexibility of the system and the clarity concerning what is expected could lead to higher performances of more

students. A higher pass rate should, however, not be equated with a lowering of standards but rather related to the learning support and clear communication of academic requirements. Students are provided with feedback after assessment and re-teaching and retesting (Boschee and Baron, 1993:116) is applied to improve the quality of education. In addition, the expected pass requirements for demonstrated competence are often higher than the general 50 percent (Luttrell, Lenburg, Scherubel, Jacob and Koch, 1996:137) thus enhancing the quality of education.

When CBE is related to characteristics of highly regarded teacher education programmes identified by the ‘American Council on Education’ it appears that CBE assessment meets the identified feature of being ‘comprehensive and bonded to instruction while results are used to ensure the intended learning’ (cf. Section 2.2.1). It appears also that the CBE assessment system allows for achieving quality, however its complexity could impede the actual attaining of such quality.

#### **2.3.4.7 Detailed programme documents**

The above six characteristics of CBE require the specification of outcomes; the organising of content in modules via a design down process and the compilation of assessment policies and instruments. These characteristics imply activities that produce detailed programme documents. On the negative side it is understandable that such detailed documents are costly in terms of time, labour and money. On the positive side these documents allow for better skills recognition, for improved articulation and credit transfer, for accountability and efficient programme management.

#### ***Improved skills recognition***

Smith, Marriage and Gillespie (1994:10) state that CBE assessment provides students with a *record* of the competencies they have achieved. Johnston (in Bowden and Masters, 1993:19) contends that in future the determinant of a credential will be the demonstration of competency, rather than where or how it has been achieved. Bowden and Masters (1993:19) further emphasise that the establishment of national standards for occupations such as teachers not only improve the possibility of recognition of competencies, but also include recognition of competencies developed by means other than formal education and training programmes. Such a

proof of competency has obvious advantages when applying for positions. CBE therefore has an accurate collection of evidence and results are not adjusted according to norm-referenced methods (Jessup, 1991:49).

### ***Improved articulation and credit transfer***

CBE practices display a co-operation between education stakeholders in order to create programmes with wide approval of standards. The disadvantage of such co-operation is that much time is required and the introduction of programmes could take considerably longer than in the case of a discipline-based programme design. The fact that the CBE system represents national levels of qualifications each with particular requirements allows for improved articulation between and within qualifications and institutions. The details provided by specified outcomes likewise allow for transfer of credit for modules. Prior learning experiences (knowledge and skills) can be formally recognised and this improves articulation and credit transfer between work and formal education (Bowden and Masters, 1993:19). The practical implementation of recognition of prior learning is, however, complex and time-consuming. National accredited programmes enable employees to feel safe because they know they are meeting employers' quality requirements and employers would know what quality to expect from employees.

### ***Detailed documentation and accountability***

Modern governments expect accountability from educational managers. Quality education as an overall measure of institutional performance needs therefore to be detectable in some form. CBE detailed documentation does provide a basis that is suitable for the drive towards accountability for resources put into education, because the specified outcomes achieved reflect what is gained. The detailed documentation allows not only for better *institutional* management of instruction but also for management of education of a *national* level, for example: “*The recognition of prior learning, credit transfer, articulation between educational levels through the development of a qualifications framework, provision for the accreditation of courses by external agencies and registration of private training providers, were important educational reforms made possible by the competency-based system*” (Argüelles and Gonzi, 2000:18). In addition to this it could be pointed out that having clear outcomes for qualifications and courses provide effective criteria



for career paths, recognition and reward systems, performance evaluations, staff development programmes as well as criteria for staff procurement.

### ***Detailed documentation and programme management***

The systems approach of CBE produces clear documentation of outcomes, policies and administrative procedures. Several programme management advantages are linked to this: overlapping of content is reduced; areas for team teaching are clear; facilities and learning resources can be determined systematically; changes to outcomes can be done while having the whole picture on paper; programmes can be scrutinised by the public; new staff can take over modules with ease as it is possible to determine what has been done and what should come next. Clear module descriptions are also crucial for recognition of prior learning that can promote access to tertiary education and redress past practices of higher education as reserved for the elite only (Posner, 1993:31; Dubois, 1996:27-28; Bowden and Masters, 1993:16-19).

### **2.3.4.8 Recognition of prior learning (RPL)**

The recognition of prior learning, education and working experiences in relation to a particular programme makes it easier for students to access formal education, or to move from one programme to another or into a higher level one. The specified outcomes and assessment performance criteria facilitate the recognition of prior learning, although not without challenges, when it is evaluated against a framework of national standards (Bowden and Marton, 1998:18). Jessup (1991:62) points out particular conditions and arrangements for the implementation of RPL, which suggest that it would be a rather time consuming and expensive process.

Until now different unique characteristics of CBE have been described: There are various models of the CBE paradigm; certain philosophical perspectives permeate the programme design and implementation; outcomes as intended results are specified and encompass knowledge and competencies; some or all of the programme content is organised into modules rather than disciplines; occupational roles are developed into exit and learning outcomes and serve as the starting point of a systematic 'design down' process; learner-centred and constructivist-related teaching-learning perspectives are applied; assessment of knowledge and competence focus on deep learning and transferability; detailed programme design and implementation documents are

created that serve accountability needs and the recognition of prior learning is advocated. These unique features imply that a CBE programme design and implementation framework could not be truly CBE if these features are not accommodated. The highlighting of the possible disadvantages of the features could guide programme designers to pay the necessary attention to particular details in order to address challenges.

CBE appears (cf. Sections 2.3, 2.4) to accommodate also most features of the above teacher education models (cf. Section 2.2.1) since it incorporates the common elements of the European models, for example, studies in educational sciences; academic subject studies; studies in subject matter methodologies and teaching practice. In addition, CBE advocates the input of partners into the design and delivery of teacher education programmes while emphasising learner-centredness and multicultural needs. Furthermore, CBE departs like performance and best practice models from national standards that are based on teacher roles to develop well-rounded practitioners. Moreover, CBE focuses like ‘strategic effective models’ on the systematic design, effective implementation, valid assessment and continuous evaluation of programmes. CBE also appears to display the characteristics of highly regarded teacher education programmes such as the consistent application of concept of good teaching while guided by well-defined standards in coursework, clinical experiences and valid assessment. Against this background it might be concluded that CBE as a conceptual framework seems fairly applicable to the design and implementation of teacher education programmes although certain limitations remain (cf. Section 2.6.3).

A more complete synthesis of CBE features applicable to teacher education programmes is provided in the next section.

## **2.4 A SYNTHESIS OF CBE PROGRAMME CHARACTERISTICS**

A synthesis by the researcher of the above description (cf. Section 2.3) of the design and implementation characteristics of CBE in higher education programmes are displayed in Table 2.2:

**Table 2.2 Synthesis of possible design and implementation features of a CBE teacher preparation programme**

<p>❑ CBE programme planning discussions need to consider what university education needs to be about in current times, particularly in Africa.</p>
<p>❑ CBE has a workplace and thus utility focus. Education involves preparation for living and working situations. Programmes thus having a specific occupational focus and relevancy need not be equated with a lowering of standards.</p>
<p>❑ Like other educational practices before it, CBE has been introduced on grounds other than educational research results.</p>
<p>❑ CBE programmes focus on the requirements of beginner professionals rather than expert practitioners.</p>
<p>❑ Occupations are analysed in terms of roles and tasks that are expressed as outcomes. Outcomes cover basic occupational tasks, management of the tasks, contingency management skills and job environment skills.</p>
<p>❑ Outcomes are carefully selected in collaboration with many stakeholders and made public.</p>
<p>❑ Outcomes can be described in terms of performance criteria and range statements.</p>
<p>❑ The whole programme is designed down from the outcomes. This implies that the instructional modalities, assessment and administrative system are geared towards creating a conducive teaching-learning environment that promotes achievement of the outcomes. CBE is thus not primarily a management or assessment system.</p>
<p>❑ The outcomes integrate knowledge and practical application thereof. Mainly knowledge, attitudes and values that underpin the effective execution of competencies are included.</p>
<p>❑ Outcomes are prioritised as exit and enabling outcomes and organised into modules rather than subjects.</p>
<p>❑ The content of modules is often of an interdisciplinary nature.</p>
<p>❑ Students are carefully selected for admission to programmes and recognition of prior learning can be incorporated into this process.</p>
<p>❑ The premise is that all students can master the required knowledge and skills, provided sufficient time and conditions, is applied. Self-pacing that allows flexible schedules, is accepted. Learner-centred perspectives are thus applied.</p>
<p>❑ Mastery, and not time spent in a programme, is the basis for progress. Individual and</p>

group teaching approaches should therefore promote mastery.
<ul style="list-style-type: none"> <li>❑ Mastery requires that students accept some responsibility for their learning success. The role of the lecturer is one of facilitator rather than transmitter of knowledge.</li> </ul>
<ul style="list-style-type: none"> <li>❑ Instructional modalities include case studies, workplace experience and other experiential methods.</li> </ul>
<ul style="list-style-type: none"> <li>❑ Adequate resources and materials are important to support learning and teaching.</li> </ul>
<ul style="list-style-type: none"> <li>❑ Expanded learning opportunities, such as peer tutoring and group projects, allow students to master knowledge and skills on the required levels.</li> </ul>
<ul style="list-style-type: none"> <li>❑ The introduction of CBE requires proper managing of change, since teaching and administrative policies and structures need to be adopted.</li> </ul>
<ul style="list-style-type: none"> <li>❑ The implementation of CBE requires the training of academic and administrative staff in CBE theory and practice.</li> </ul>
<ul style="list-style-type: none"> <li>❑ Criterion-referenced assessment imposes no limits on how many students could reach the defined standards. The Bell curve does not apply.</li> </ul>
<ul style="list-style-type: none"> <li>❑ Assessment of competencies needs planning, proper instruments and cooperation with stakeholders.</li> </ul>
<ul style="list-style-type: none"> <li>❑ Assessment focuses on knowledge, generic and occupational skills. A wide range of assessment formats are employed.</li> </ul>
<ul style="list-style-type: none"> <li>❑ Qualification documents are accompanied by lists of competencies achieved.</li> </ul>
<ul style="list-style-type: none"> <li>❑ Clear outcomes and stakeholder involvement in selecting them create national standards for qualifications. This promotes credit transfer between education and training qualifications as well as worker performance and productivity.</li> </ul>
<ul style="list-style-type: none"> <li>❑ The systematic design and detailed documentation of CBE allows for meeting accountability and management requirements.</li> </ul>
<ul style="list-style-type: none"> <li>❑ Programme effectiveness is continuously evaluated by involving stakeholders.</li> </ul>

A thorough understanding of CBE characteristics would obviously allow for observing its appropriateness for teacher education, its distinction from subject-based education (SBE) and the possibility of analysing the ADEd design and implementation framework in Chapter Six. The researcher maintains that many universities are in agreement with the above characteristics, perhaps even implementing them to some extent in their striving for quality, while not being knowledgeable of CBE designs and terminology. This reiterates the point that CBE and SBE are

often not two opposing systems but rather reflect developments along a continuum. It should, however, be acknowledged that large numbers of students in university programmes might limit the feasibility of implementing CBE characteristics such as individualised support and examinations.

A fully developed CBE system such as the transformational one (cf. 2.3.3) will employ all the above CBE features but universities will have to evaluate to what extent they could implement CBE features. In each case however, the overriding guideline is that all instructional and administrative procedures will be geared to achieving the exit and enabling outcomes. Some of these CBE features elicit strong criticism, such as the 'watering down of academic knowledge' and the 'centralised control exercised by the National Qualification Authorities'. These and other criticisms are discussed under the following sections in order to answer the sub-research question about the appropriateness of CBE for teacher education programmes at UNAM.

Comparing subject-based and competency-based programme features might provide a comprehensive picture of CBE theory and practice. This could enable the researcher to argue the suitability of CBE for teacher education and draw conclusions with a view to a possible framework for designing and implementing such programmes.

## **2.5 A COMPARISON BETWEEN SUBJECT-BASED (SBE) AND CBE PROGRAMME FEATURES**

The following comparison by the researcher highlights the main differences and similarities between CBE and SBE programmes to allow possible deductions about the appropriateness of CBE for teacher education.

The researcher recognises the limitations of comparing programme features. The contrasting philosophies about the purposes of education underlying the two orientations are so different that it is almost like comparing apples to pears. On the other hand the comparison does provide helpful information for understanding the two orientations. The comparison is aimed at a *micro* level (design features and implementation level) involving the aims / outcomes, teaching-learning opportunities, content, assessment and the design principles underlying a programme.

The information generated through the comparison section will be useful for the discussion of the strengths and weaknesses in following sections. All programme designs have advantages and limitations, including the competency-based and the subject-based design, but if the strengths of such a design outweigh its weak points, chances are that it will stay in use.

The following table provides a brief overview of the differences and similarities in programme characteristics.

**Table 2.3 A comparison of SBE and CBE programme characteristics**

<i>Characteristics of subject-based education (SBE) programmes</i>	<i>Characteristics of competency-based education (CBE) programmes</i>
1. Content-based: quality education has academic knowledge	1. Competency-based: quality education prepares people for working life
2. Time-based: qualification levels are determined by contact hours	2. Standards-based: qualification levels are determined by set standards
3. Emphasis is on inputs	3. Emphasis is on outputs/outcomes
4. Lecturer and institutional needs	4. Student and society needs
5. Group paced	5. Individually and group paced
6. Subjects form the basis for content organisation	6. Modules and units form the basis for content organisation
7. Little or no recognition of informal prior learning (RPL)	7. RPL of informal learning is an integral programme component
8. Periodic feedback, e.g. two tests per semester	8. More regular/continuous feedback
9. Narrow range of delivery approaches, e.g., lecturing and textbook. The focus is more on <i>what</i> than <i>how</i> to teach	9. More flexible delivery approaches, e.g. learning in work places, through videos, group discussions, case studies
10. Limited field experience	10. Collaborative arrangement between workplaces and education providers
11. Lecturer as expert transmits and conducts lectures, demonstrations	11. Lecturer as expert resource person and facilitator: one of many resources

12. Student as receptacle	12. Student more self-directed and taking responsibility for own learning
13. General aims / objectives cover mainly the area of knowledge	13. Specific learning outcomes cover areas of knowledge and competencies
14. Often norm-referenced assessment	14. Only criterion-referenced assessment
15. Subjective assessment criteria, often unspecified	15. More objective assessment criteria, mostly publicly stated upfront
16. Emphasis on assessment of knowledge	16. Emphasis on assessment of competence as application of theory too
17. Certification specify final grades for final year subjects	17. Certification specify final grades for all modules and their unit titles
18. Management structures and policies have an institutional focus rather than a learning support focus	18. Management structures and policies aim to support quality learning and success for all

(Sources: Adapted from and Blank, 1982:5, 264; Harris, et al. 1995:29)

A comparison like the one in Table 2.3 as adopted from Blank (1982) and Harris, et al. (1995) helps to summarise the basic differences in the two approaches, but it can also project a skewed image. Differences between the two positions on each characteristic could very often rather be seen as points on a continuum. Any table portrait phenomenon features at a certain point in their development. The above features represent the latest developments of both curriculum designs. The focus portrayed in the table does not reflect all details of categories. For example, a subject-based programme acknowledges the value of some practical training but the design-focus is on knowledge not on competence. Similarly, CBE recognises the value of knowledge although the programme design starts by identifying occupational roles and competencies. CBE proceeds from the premise that competencies should be an integral part of education and training, and that education should have some utilitarian function, therefore competencies are important outcomes.

A brief clarification of the comparison in Table 2.3 is needed:

### *Academic content versus competence*

CBE education philosophy accepts that university education should be more relevant for changing working and living environments and should attend to both individual and national development needs (Morrison, 2003:1). In regard to individual needs, unemployment exists everywhere in the world and influences many people's quality of life negatively. To ensure people can compete effectively for a job and keep it, immediate usable job skills and attitudes are prerequisites to be included in education (Bargagliotti, Luttrell and Lenburg, 1999:5). If philosophical arguments of epistemology underpinning teacher preparation programmes negate the fact that life is larger than education or universities then the argumentation is flawed (New Jersey Commission on Higher Education, 1999:4). It makes sense, therefore, if curriculum design principles of 'integration, relevance and credibility' are applied to teacher preparation programmes (Carl, 2005:13) to develop occupational knowledge and competence relevant for meeting global economy and Information Age demands (Sullivan, 1995:2; New Jersey Commission on Higher Education, 1999:5). The SBE curriculum designs, on the other hand, are often less relevant for real life preparation as general education aims to deepen understanding of a field and develop the intellect (Knight, 1995:26; Catri, 2002:3; NCVER, 1999:2).

### ***Time and standards***

Subject-based programmes are designed according to a time-based tradition of, for instance, three or four years for a specific qualification. Competency-based programmes are designed by determining what knowledge and competencies would constitute the programme and then the amount of time required is determined by the scope of the curriculum (Sullivan, 1995:1). This means the standards determine the length of the programme and not vice versa.

### ***Emphasis on inputs versus outputs***

This links with point number three: *inputs vs outcomes*. The *end results or outcomes* of CBE programmes are the starting point from where the programme is designed down to determine what the inputs should be, while in the subject-based programmes the focus is on the *inputs* such as lecturers, facilities, time table and textbooks (Alexander, s.a.:2). If the CBE output-focus of a teacher programme is too narrow rather than holistic the quality of the programme will be limited.



### ***Institutional and society needs***

SBE programmes have a tendency to focus more on the needs of the lecturer (lecturer accommodating time tables, internet connections) and the institution (policies about times and venues for certain services, dress and behaviour codes to protect the university image) rather than on the support of student learning or the education needs of employers. CBE has a more student-as-customer approach and although there will always be rules and policies, the use of time, venues and quality of services is more customer friendly (Alexander, s.a.:2). Therefore, teacher education planning and implementation frameworks need to reflect this. Features four, seven, eight, nine and twelve reflect how CBE theoretically accommodates the *learner more* strongly than SBE although it must be recognised that many SBE programmes render equal support to students.

### ***Group and individual paced***

Feature number five is *group-paced* versus more *individual paced* and refers to the fact that university lecturing to large classes is the dominant SBE system that sets the learning pace. CBE oriented institutions often allow more flexible pacing of learning of individuals or groups through self-directed learning materials and different time frames for taking the final examinations (Sullivan, 1995:3). The individualisation of instruction and assessment in either CBE or SBE teacher education programmes has management and financial implications that might hamper such efforts.

### ***Subjects and modules***

Feature six deals with *modules and units*. CBE curriculum designs move away from purely traditional subject content towards interdisciplinary modules (Killen, 1999:18). A module consists of several units. Units contain theory and skills related to a specific learning outcome. Teacher education planning and implementation frameworks need therefore to reflect this. Units and modules are allocated hours per week and credits related to the hours. This makes calculating of the credits of a programme and implementing changes to a module easier but it also implies a reduction in the discipline content which could be viewed as a lowering of standards.

### ***Recognition of informal learning***

RPL or recognition of prior learning is a process that can assess *informal and formal* prior learning against the formal education requirements of units, modules, a subject or programme. Teacher education planning and implementation frameworks need, therefore, to reflect RPL. The detailed documentation of outcomes of CBE programmes establishes a framework against which to measure prior learning. Recognition and credits are not awarded for ‘years of experience’, but only for verifiable learning that occurred as a result of those experiences. RPL is not the same as mature age admission tests or recognition of some of the passed subjects in a formal qualification (Geyser, 2001:31-35). SBE programmes do not recognise prior learning in the same fashion, but mature age entry and subject scores are applied as a way of recognising prior learning.

### ***Feedback***

Feature eight refers to *periodic feedback*. In the traditional programmes students are expected to participate in two to three assessment exercises per semester, which give them an indication of how closely they meet the required levels. CBE programmes require more assessment exercises because smaller components / units are assessed and students get a second chance to prove their mastery levels if the first attempt did not meet the set requirements. Discussion of learning efforts is part of the feedback because assessment is seen as a learning experience as well (Killen, 1999:24). Teacher education planning and implementation frameworks need, therefore, to incorporate policies regarding regular feedback.

### ***Delivery approaches***

Feature nine highlights the teaching-learning opportunities. Universities use a *lecturing delivery* system because much content can be covered that way and it is cost effective. There is however a downside to lecturing as it does not promote active or experiential learning. CBE employs other forms of delivery more commonly as the goals of education are broader than knowledge and require other than lecturing approaches. CBE promotes self-directed learning, inductive teaching strategies and the use of many resources (Hauck and Jackson, 2005:4, 6; Killen, 1999:23, 29; Spady, 1994a:14-15). Teacher education planning and implementation frameworks need, therefore, to reflect the nature of delivery approaches.

### ***Field experience***

SBE and CBE programmes differ in terms of valuing *field experience*. Universities that define their role according to traditional general educational aims shy away from utility programme designs that require more field experience. For CBE the combination of theory and practice constitutes deep learning and transferability as part of quality education (Bowden, 2000:16). The disadvantage of having more field experience relates to the logistics, time and money involved. Teacher education planning and implementation frameworks need, therefore, to make provision for field experience.

### ***Role of the lecturer and the student***

Features eleven and twelve refer to the *role of the lecturer* and the *student*. Lecturers in SBE fore- mostly transmit knowledge and refer students to textbooks that cover the lecture contents (Glasgow, 1997:31). The lecture is therefore not really managed purposefully to support learning in and outside lecture rooms. The CBE lecturer accepts the role of facilitator of learning. The transmission of ideas is complemented by other methods and, during the lecture, involvement of the student is managed to focus on why and how questions, including 'how could one think to solve this'. The development of self-directed learning is encouraged and consciously supported by a CBE lecturer (Alexander, s.a.:2; Hendricson and Kleffner, 1998:189). Teacher education planning and implementation frameworks need, therefore, to clarify the role of the lecturer and student.

### ***Scope of a programme***

The scope of a programme is covered in feature thirteen. For SBE the majority of programme content is broad *knowledge* of different subjects (Lockett, 2001:55). SBE does not conduct a systematic occupational role analysis for a qualification and practical training is thus more of an add-on component. The CBE programme is more selective regarding content and might trade off some depth for a broad scope of content from four areas: Basic tasks of an occupation; Management tasks; Contingency management tasks and Job environment tasks (Jessup, 1991:27). For CBE *practical training* is an integral part of the main programme. A CBE teacher education planning and implementation framework needs, therefore, to reflect this nature of the scope of the programme.

### ***Assessment***

CBE designs (feature fourteen) do not accept *norm-referenced assessment*. Each individual's performance is assessed and graded. This determines whether work should be re-learned or whether a pass level is attained. There are dissenting views about the pass-fail grading or the need to have levels of passing, and even about the assessment in the work place, but there is agreement in CBE that assessment should be criterion based (Maxwell, 1997:1-7). The Bell curve and norm-referenced assessment do not apply to CBE assessment results. Feature fifteen is linked to *criterion-referenced* assessment and contends that CBE assessment is publicly specified and more objective than that of SBE. This is correct if it is considered that CBE outcomes clearly delineate national (more objective) standards which students are expected to attain and that criteria for assessing performances and knowledge are publicly known upfront (Killen, s.a.:14-16). SBE oriented assessment criteria are more determined by individual lecturers and thus more subjective and often not known to students. Teacher education planning and implementation frameworks need, therefore, to incorporate an 'assessment feature' which would clarify its nature and availability for students.

### ***Certification documents***

Traditional certification documents of universities do not provide as much information as CBE certification documents (feature seventeen). The latter could provide information about competencies completed, which is normally very helpful for employers and educational institutions to judge the relevance of a candidates' qualification (Sullivan, 1995:7). Teacher education planning and implementation frameworks need, therefore, to incorporate a feature regarding the 'certification documents'.

### ***Management***

The last feature indicates that the management structures and policies of a CBE oriented faculty focus on promoting quality learning and success for all (staff and students) rather than focusing on institutional management and policy preferences. To change to CBE practices requires leadership initiative and management of the change which is usually time consuming and conflict ridden. Training of lecturers, students and administrative staff is necessary to orientate them to new structures, policies and procedures (McCann, Babler and Cohen, 1998:197-207; Burke,

1989:146). CBE teacher education planning and implementation frameworks need, therefore, to address instructional and change management.

The strengths of CBE derive from the focus of the approach, while the weaknesses derive from its blind spots. The strength of the subject-based approach is its attempt to respect the structure of disciplines, while its weaknesses are its “...*failure to recognize the differences in ability, background knowledge, experience, learning processes, interests, and aspirations between adult scholars and young students.*” (Posner, 1992:182). CBE recognises that young and adult learners learn differently, that education should be related to life and that education should include skills, but its major weakness is “...*its blindness to the structure of knowledge...*” (Posner, 1992:182). In other words, each approach represents a trade-off. The ideal would be to design a more balanced curriculum integrating the positive elements of a subject-based and a competency-based curriculum design.

The above *institutional level* comparison could be complemented by a typical *national or systemic level* of comparison as proposed by Harris, et al. (1995:27-28) and portrayed in Table 2.4.

Table 2.4 **Comparison of SBE and CBE features at a national level**

<b>Features</b>	<b>Subject-based programme</b>	<b>Competency-based programme</b>	<b>Perceived Advantages of CBE</b>
<b>1. Registered credentials</b>	Institutions determine their own credentials	Credentials are registered and recognised nationally	National consistency in quality of credentials
<b>2. Proof of competency</b>	Credentials indicate successful completion of a course but not the level of competency	Credentials indicate the holder has achieved specific competencies to specific standards	Credentials certify knowledge and competencies to the advantage of students and employers
<b>3. Accreditation</b>	Accreditation is determined by the status of institutions	Accreditation is determined by a national authority	Education/training institutions are registered and should meet national standards, thus national accreditation for local programmes is automatic

<b>4.</b> <b>National standards</b>	The status and quality of a programme are based on time spent in it with the focus being on subject knowledge	The status and quality of a programme are derived from the integration of industry needs, academic knowledge and competencies mastered	National standards are more holistic in nature and the divide between education and training is narrowed on all levels of education
<b>5.</b> <b>Consistent outcomes</b>	Subject outcomes are mostly dependent on individual lecturers	Outcomes of modules are determined by its contribution to a programme and modules are mostly designed by groups of stakeholders	Graduates are viewed as more competent because they meet national standards; compete more strongly for and are likely to keep jobs;
<b>6.</b> <b>Registration of providers</b>	Private providers have a minimum standing and in-company training has little or no formal status	All public and private providers of education/ training must meet specified standards for programmes and in-company training can be accredited	A wider range of recognised providers of education/ training; closer integration of public and private education; and better use of expertise in the community
<b>7.</b> <b>Credit for prior learning</b>	There is no formal system of prior learning recognition, especially not for work experience	There is a formal system available to assess theoretical or work experience and give credit for it	There is less duplication of learning with consequent time and cost savings and often greater access to programmes are created
<b>8.</b> <b>Transfer of credits</b>	Ad hoc transfer of credits from one course to another	The credit transfer process is structured in the credentials system	Recognition for prior learning is built into the national system
<b>9.</b> <b>Assessment</b>	Assessment of learning focuses mostly on knowledge	Assessment covers both competencies and knowledge objectives	Better integration of theory and practice promotes transfer of subject knowledge and understanding to new situations

(Source: Adapted from Harris, et al. 1995:27-28)

The ‘perceived advantages’ column in the table above, summarises the possible advantages of CBE at a national level. It might be pointed out that consistency in national standards; more detailed certification; accreditation of all educational institutions; transfer of credits and reliable assessment would be positive contributions on a national level. On the other hand, having national standards could be viewed as limiting both the diversity of creative programmes and the

academic freedom of universities. As the following sections will point out there are additional disadvantages related to the implementation of CBE at institutional and national level and unless adequate resources and management are applied, some of the advantages might not be realised or could result in poor practices. Overall, the analysis of the CBE characteristics appears to suggest that CBE might be appropriate for the design and implementation of teacher education programmes, given that particular challenges are addressed.

The next section analyses the appropriateness of CBE for teacher education.

## **2.6 THE APPROPRIATENESS OF CBE FOR TEACHER EDUCATION**

### **2.6.1 Criticism against CBE**

As with any innovation in education there are misconceptions, myths and preconceived ideas about what CBE entails, how it works and what impact it will have on different stakeholders and systems. Jackson (in Collins, 1993:154) acknowledging Hyland (1992) and Fagan (1984) presents the pertinent question of how one could understand the disparity between the views of the opponents and supporters of the competency approach: For its opponents the approach is a “...*theoretically and methodologically vacuous strategy*” for upgrading an education and training system. For its supporters it is “...*as close to a panacea for educational ills as one might find...*” Part of the solution to the discrepancy might be because stakeholders are not always using CBE concepts consistently. Secondly, the concept evolves (cf. the three CBE models, 2.3.3) and definitions change to reflect the changes in other spheres. Thirdly, the epistemological and curriculum orientations of people are determined by what they want to accept or reject and conclusions are not necessarily based on open-minded comparisons.

Understanding the limitations of a curriculum design enables the designer to devise new solutions for the limitations or to diminish the negative effects of the design or to discard the design. The appropriateness of CBE for teacher education is discussed by analysing the key design and implementation related criticisms against CBE. Thereafter some advantages and limitations of CBE will be illuminated.

*Education differs from training*

Penington (1994:74) contends that education and training are not one and the same: “*Education develops and civilizes the person, while training provides industry with specific skills.*” This implies that education is broader than training, that the intellectual is not one and the same as the practical, even though they may often be necessarily and desirably intertwined. Education could include the development of a wide range of skills, but is not encompassed by this description. This distinction between education and training as superior-inferior has unfortunately been created. It does not mean however that this image is correct or should be maintained. As indicated in Section 2.3 above, for CBE protagonists effective education comprises both components but the competencies are the point of departure.

The criticism that complex professional education could not be completely defined in terms of mainly competencies might be valid (Burke, 1995:59-60). It is probably just as valid to maintain that education could not be completely defined in terms of mainly subject knowledge or values. Many academics would agree that professional growth during university years occurred because of lectures, but also because of out of class discussions and practical exercises and experiences. ‘Lectures’ and ‘experiences’ translate into knowledge and skills training. Both these components are necessary for quality education. The early CBE programmes focussed on competencies to the detriment of the role of knowledge just as the subject-based designs pursue knowledge to the detriment of competencies (Wallace, 1997:4). The appropriate approach appears to be that curricula are to be understood from different perspectives such as ‘curriculum as professional learnings’, ‘curriculum as outcome’, ‘as culture’, ‘as transformation’, ‘curriculum as consumption’ and as ‘liberal’ (Barnett and Coate, 2005:17,28,32,35,37,38).

### ***Education is both a process and a product***

Another criticism is raised by Penington (1994:70) who propounds that “...*education is a process of development and growth. The process, not merely the result, is important.*” Penington perceives CBE as ignoring the educational *process* and focusing only on particular measurable, practicable outcomes. Penington furthermore contends that these outcomes cannot deliver the necessary breadth of description of qualities inculcated by good education, for example: enough knowledge; development of intellectual capacity, social, physical and moral attributes. The transformational perspective of CBE however does focus on the role of knowledge, intellectual and ethical development. Although CBE outcomes focus on the result of education it is just not



true, as indicated up to this point in this chapter, that CBE ignores the educational process. In fact, CBE designs are more learner-centred (cf. 2.3.4.5; 2.4) than subject-based designs and the process of learning is supported by a particular philosophy and programme design.

It is acceptable to the researcher that education as a complex phenomenon cannot fully be captured by outcomes, but to have a planned programme without guiding outcomes is assuming that certain qualities develop automatically. A programme is a journey to a particular destination and programme outcomes influence much of the journey and the destination. If universities admit that education should focus on both the process and the product, CBE is appropriate for teacher education.

### ***CBE is too behaviouristic***

Penington (1994:74) points out that criticism against the behaviourist features in competency-based education includes views such as *narrowly utilitarian and instrumentalist approach* that would imply a fragmentation of subjects. This criticism is extended by Kerka (2000:1-2) who refers to Gonczi (1997) and Hyland's (1994) views that behaviourism "...is criticized for ignoring the connections between tasks; the attributes that underlie performance; the meaning, intention, or disposition to act; the context of performance; and the effect of interpersonal and ethical aspects". Tennant (1988) (in Hyland, 1994:50) criticises moreover the use of the behaviouristic objectives by CBE that focus on observable phenomena and abandon the examination of unobservable mental activities.

Firstly, before addressing the above criticisms, it could be pointed out that criticism against pure *behaviourism theory* could not be equated with the *practices* of CBE. In addition, CBE improved on some of the initial behaviourist features it displayed and much criticism against CBE is therefore not valid any longer. It is also possible that the influence of behaviourist ideas is overemphasised while the influence of *systems thinking, management theories, mastery learning or other factors* favouring the need for objectives are underestimated. It appears to be true that the initial competency-based programmes in vocational institutions did have rather atomistic lists of occupational competencies. Presently, vocational or higher education CBE programmes recognise the necessity for identifying tasks for a *beginner* or other level and to structure tasks according to occupational *roles*. The departure from roles rather than tasks ensures a holistic

understanding of the occupation and its priority duties. This clarity about the key occupational duties allows for accurate selection of underpinning knowledge, attributes and ethics.

Related to the atomistic criticism is the one of *fragmentation of knowledge*. A focus on occupational roles results in a selection of traditional subject content and the 'fragmentation of subjects' criticism is therefore not likely to disappear soon. CBE creates new and integrated perspectives to achieve certain outcomes and in doing so traditional content is selected and organised differently, namely in units and modules (cf. 2.3.4.3). According to Penington (2000:75) the focus on competence and consequent influence on the selection and organisation of knowledge may be amenable to practical education, but not to higher education *Wissenschaft*. The researcher contends that if 'Wissenschaft' is for Penington the research and practice of academic knowledge in the particular disciplines then CBE is not suitable for 'Wissenschaft'. If other definitions of 'Wissenschaft' are considered as involving research of phenomena from multidisciplinary perspectives and the application of integrated knowledge to solve problems, then CBE might be suitable for 'Wissenschaft'. In Namibia the Bachelor degree level descriptors focus strongly on competence but the higher level degrees emphasise higher 'Wissenschaft' levels of knowledge (Ministry of Education of Namibia, 2006:6-30).

It should be kept in mind that CBE programmes do not reject all subject-based disciplines per sé, in fact subject-based disciplines are often offered as a foundation for further modular subjects (Foxcroft, Elkonin and Kota, 1998:16) The versatility of modules allows for addressing of abilities and dispositions that serve personal and interpersonal development as part of the attributes making up competence performance (Soucek in Collins, 1993:170). The researcher asserts that if modern university education is perceived to be about preserving subject boundaries then these fragmentations are unacceptable. However, if university education is seen as empowering people, (New Jersey Commission on Higher education, 1999:4) then combining knowledge in new ways could be seen as creating rather than fragmenting knowledge.

The criticism relating to the objectives model of CBE was addressed earlier in this chapter. It was pointed out that stating objectives is acceptable as long as these are not only stated in terms of observable behaviour, but include cognitive levels of understanding and attitudes, according to cognitive and humanistic theories (Hyland, 1994:51). Modern CBE practices acknowledge that

education objectives should cover the whole spectrum of knowledge, capabilities / skills or attitudes. Moreover, it is agreeable that it is not possible to capture the complete depth and scope of education programmes in stated outcomes, no matter what the curriculum orientation might be. Nevertheless, well-planned programmes operate better than ill-conceived ones. In addition, the counter argument notes (Burke, 1995:61) that it is unthinkable to maintain that there are no ways of stating in advance the kinds of quality one would like to develop or the errors in thinking or activities that one would like to eliminate or avoid. Professionals and examiners are constantly making appraisals and judgements about ideas, thinking or performances by using some criteria that are linked to the intended results reflected by objectives. Eraut (in Burke, 1995:272) suggests all professions should have public statements about what their qualified members are competent to do and what people can reasonably expect of them.

The holistic competence approach is consistent with social and cognitive psychology learning theories and acknowledges the role of *context and culture* in judging competence (Preston and Walker in Collins, 1993:118). The role of context figures very strongly in CBE programme design as described in Chapter Three under 'Conducting a situational analysis'. CBE programmes thus address national and global context requirements and needs.

When CBE is criticised, behaviourist features are depicted as the downfall of CBE. The positive features of behavioural views should however also be brought to bear when behaviourist related criticism is levelled against CBE. The influence of the behaviourist learning theories on CBE designs and implementation have been explored by Hodkinson (1992), Norris (1991), Ashworth and Saxton (1990) and Hyland, 1992a, 1993c (in Hyland, 1994:50). Beneficial principles that are emphasised in the stimulus-response theories include the following: learners are actively involved; repetition promotes retention and acquisition of skills; feedback and reinforcement of learning efforts; application of knowledge to other contexts by understanding the principles involved; the importance of role models; the necessity of sources to stimulate learning; the role of motivation in learning and the handling of emotions that influence learning (Doll, 1996:76; Hyland, 1994:50-52). These are all valid aspects of effective education as long as they are not seen as the *only definitive features* of effective education. Many of these features are in accordance with constructivist learning ideas (cf. 2.3.4.5) to which CBE subscribes and that seem appropriate for teacher education.

### ***CBE is a management or assessment system***

During the nineties, the competency movement was rediscovered by education via organisational strategy and management perspectives. Many organisations in business and industry discovered the human resources management value of the competency system, for example, roles applied to job descriptions, outcomes applied to appraisal, promotion, placement, career development, management development, recruitment and dismissal (VETNET Symposium, 2000:2). Opponents view these and other management related features of CBE as a negative because the CBE system approach is also seen as influencing the *autonomy* of educational institutions. The CBE characteristics spelled out previously (cf. 2.3.4.1) indicate that CBE is above all an orientation to education and programme design, incorporating a very systematic design process that has administration advantages. Leadership and management are crucial for the effective implementation of any programme and if a design system has such inherent management spin-offs for both an institutional and a national level, it should be seen as beneficial. It was also previously explained that outcomes and not assessment direct CBE designs (cf. 2.3.4.2). Related to the criticism regarding objectives in CBE is the one of ‘human engineering’.

### ***CBE is a form of human engineering***

For McKernan (1993:345) the most fundamental criticism against CBE is that it reduces education to a form of human engineering, because it views education as instrumental to specific ends. This means-ends stance would then violate the epistemology of the structure of certain subjects and dismisses the possibility that the justification for education lies within the process itself. The systematic means-ends programme design attracted the label ‘technical’ and ‘technicist’ which activates meanings of too ‘strong focus on competence’, ‘neglecting values’(Jansen, 1998:325-326), ‘technical precision of outcomes’, ‘atomised lists of functions’(Norris, 1991:331, 334) and ‘education as a product rather than a process’ (McKernan, 1993:343). The competency-based curriculum designs might initially have displayed some *technical* features, but it has since been developed. This is evident by the move away from a merely ‘how-to do’ (skill) focus to encompass broader knowledge and understanding, attributes and capacities (cf. Chapter 1: Section 1.4.3) related to real world contexts (Bowden and Masters, 1993:157, 171).

CBE proponents on the other hand might point out that ‘logical’ programme planning and coherent relationship between components is not equivalent to ‘mechanical’. Neither implies a skills focus or a view of education as a product. Against the background of Tables 2.2, 2.3 and 2.4 CBE appears to have a learner-centred and real life context orientation: People’s right to higher education is acknowledged; the lecturer has a process role as facilitator; students’ learning differences are accommodated; students are supported but at the same time prompted to take responsibility for their learning and future; education is consciously preparing people for working contexts / environments by combining knowledge, skills and values; assessment is managed in a flexible manner by giving additional chances to achieve success and selection of relevant content enhances motivation of students and combats the overloading of the curriculum with information.

The human engineering argument is obviously related to the issue of the goals and relevance of higher education. If a programme has aims, chances are that some of the content would serve as a vehicle to achieve certain ends and some content could be the end in itself. It should be recognised that education is not neutral and governments and universities select content for reasons – thus rendering most formal education as human engineering. Having educational targets and plans could be appreciated by some as intelligent leadership and management aiming at job creation, fighting off unemployment and promotion of productivity as opposed to human engineering.

### ***CBE lowers standards***

The decline of educational standards on any level of education is a matter of serious concern. One of the criticisms that was lodged against CBE programmes for schools (1994) in Minnesota, Ohio, Iowa and Virginia was that the academic side was “watered down” in favour of ill-defined values and process skills (NCVER, 1999:4; McNeir, 1993:3). Higher education opponents of CBE also express the accusation of watered down academic content in terms of both *scope and depth* (Hyland, 1994:24). In addition, Penington (1994:80) is of the opinion that preoccupation with measurable competencies at every level will not solve the problem of standards. This argument is sound if it is recognised that quality is determined by many factors such as aims, over large intakes of students, lack of resources, staff expertise, type of student allowed, teaching effectiveness, organisation of content and forms of assessment (Green, 1994:6-7). Achieving

quality thus requires a 'total quality systems' approach. McKernan (1993:346) too doubts the quality of CBE curriculum designs. His argument is that if ninety percent of students attain high grades in 'trivial pursuits', quality is not enhanced and furthermore some quality goals cannot be realised in one period or unit. These and other criticisms regarding quality need to be addressed.

The definition of quality higher education would partly depend on a person's view of what higher education should be about. The following dimensions have been associated with the meaning of quality: (a) quality as exceptional; (b) quality as perfection; (c) quality as value for money; (d) quality as transformation; (e) quality as an attainment of standards (Technical committee on the revision of norms and standards for educators in South Africa, 1998:140). In Table 2.2 it was indicated that subject-based quality would be about the scope and depth of academic subject knowledge and the intellect. For exponents of a subject-based programme a 'watered down' programme would be offering less than as 'much as possible' subject content in each subject. The value of knowledge is therefore perceived to lie in the *amount* and the discipline based *structuring* of it. This subject-based argument might be questioned, because formal discipline exponents also claim that such subject-based content would develop the 'intellect'. This 'develop the intellect' acknowledges the 'function value' of knowledge rather than the 'amount and structure value' of it. Another view would be that *not the quantity prescribed* but the actual *quantity mastered* by students would constitute quality. Based on the characteristics of CBE (cf. Sections 2.3, 2.4) it can be deducted that a 'watered down' programme would be to have: irrelevant knowledge in a programme, to have no competencies developed or to have the quality of a programme measured against time spent in it instead of having met the standards specified by outcomes. CBE proponents might interpret SBE programmes as poor quality when students lack competencies; cannot apply knowledge to real problems; do not see problems holistically; do not possess enough specialised knowledge and do not meet competency and employability expectations of employers and government.

Subject-based oriented curriculum designers agree on the curriculum theory suggesting that a curriculum should be 'relevant' or 'responsive' (Gravett and Geyser, 2004:144; Lubisi, Parker and Wedekind, 1998:5). The usual meaning of 'relevant' is understood as 'appropriate', 'applicable' or 'significant'. This implies a relevant curriculum would have to be 'appropriate' and 'applicable' to an occupation or profession. CBE (cf. Table 2.2, 2.3) interprets this 'relevant'

as signifying: to address the real-life educational needs of a community or country; to select content and competencies on the basis of relevance for occupational roles of a qualification; to set standards perceived as relevant by local and international stakeholders. It would appear that CBE designs allow for the establishing of quality programmes as ‘transformation’ and ‘attainment of standards’, however, it is up to the programme designers to utilise the available design features and focus on ‘enough content’, ‘relevant content’ and the other factors impacting on quality.

In respect of the scope, a CBE occupational analysis in terms of ‘standard roles’, ‘management roles’, contingency management roles and ‘job environmental’ roles (Burke, 1989:190) results in a broad and relevant range of outcomes that is something different than education in ‘trivial pursuits’. The Australian Mayer Report (Randall in Collins, 1993:51) sees ‘key employability competencies’ as those that are essential for effective participation in current and *future* work, such as: “*collecting, analysing and organising information; communicating ideas and information; planning and organising activities; working with others and in teams; using mathematical ideas and techniques; solving problems; and using technology* (Randall in Collins, 1993:51). The Mayer competencies represent acceptable aims for university education and many different occupations in spite of critical questions about the Mayer competencies by Penington (1994:77-78) and Kerka (2000:2). The point is made that ‘generic competencies’ could be identified and developed across the curriculum, thus improving quality of programmes. The development of various kinds of thinking skills has proven this to be effective such as the ‘Instrumental Enrichment’ programme of Feuerstein and the CORT programme of de Bono (McNeil, 1990:293-294). The generic theories or processes of solving problems or being creative could thus be taught outside the boundaries of a particular subject. Competencies for professions, although identified and performances of it assessed, make only part of the total curriculum. The process to identify the competencies, relevant knowledge and values includes different stakeholders, like professional bodies and employers, and as such more people than an individual lecturer set the quality.

The policies regulating the access to university education could influence the quality achieved. The massification of higher education due to political pressures might in terms of numbers and the abilities of students, influence university education quality. Developmental (also referred to

as ‘bridging’ or ‘pre-entry’) courses exist in many universities in an effort to address past discriminations irrespective of their acceptance of competency-based approaches. The situation then is that CBE programmes with their logical systems thinking detect deficiencies in students’ prior education and address these problems either through bridging courses or programme design. Penington (1994:71) argues that higher education institutions should not address prior system deficiencies. These prior problems must be remedied in the relevant phases by addressing all fundamental issues contributing to quality education, from teacher recruitment to school management. This appears to be a sound argument but in the meantime CBE programmes need not lower quality of education per sé if developmental / pre-entry programmes determine access to the standard programmes.

### ***CBE reduces the autonomy of institutions***

The development of national competency standards for occupations might, to a certain extent, dictate the content of higher education programmes. This raises the question about the autonomy of universities (Bowden and Masters, 1993:62). Academic freedom commonly means the university may “...*determine for itself on academic grounds who may teach, what may be taught, how it shall be taught, and who may be admitted to study*” (Malherbe and Berkhout, 2001:63). National Qualification Authority requirements with regard to qualification standards, the how of the teaching and the assessment and the recognition of prior learning as part of admission policies infringe on such academic freedom (Malherbe and Berkhout, 2001:68-69). It could thus be maintained that CBE national structures and standards strengthen central regulation and decrease the autonomy of universities. The universities have, however, the autonomy to decide what programmes to offer, to interpret prescribed knowledge and practical outcomes, to prioritise and organise the knowledge in subjects or modules, to allocate time and resources and to teach knowledge and competencies as they deem fit (Technical committee on the revision of norms and standards for educators, 1998:40, 63). Another perspective might be that the identification of national outcomes for programmes need not be seen as a threat to the autonomy of education, but rather as collaboration and a clear agreement on the *minimum* expected quality benchmarks that a programme should promote (Technical committee on the revision of norms and standards for educators, 1998:xii). From this perspective the curbing of institutional autonomy seems not to be as serious as some might claim it to be.



### ***CBE terminology is problematic***

CBE has a complex terminology for educators, like *learning outcomes, performance or assessment criteria, units of standards, range statements* and so forth. Jansen (1998:3) states that the language of innovation associated with OBE is too complex, confusing and at times contradictory. These new terms are useful to get away from any concepts that might remind of colonial or apartheid education, but have the limitation of appearing very mechanistic or behaviouristic. While the CBE terminology might be complex and could be confusing for some, others academics find the language *limiting* (Bowden and Martens, 1993:129). The question could thus be raised if it would not have been better if fewer new 'labels' had been introduced. A label such as LBE (learning-based education) offers a very neutral perception without the historical baggage of the competency-based label. The 'learning-based' concept does not focus on any particular participant in the education process (like teacher or learner-centred does), but on the key process of education, namely learning.

The researcher contends that it would most likely have been easier for academics to relate to known concepts with a new dimension to them, for instance if 'learning outcomes' were related to 'aims' and 'objectives' then 'outcomes' would not have been so new any more. On top of that the nuances of some terminology have changed and are still changing as the CBE paradigm evolves. Performance criteria and range statements refer to what will be seen as acceptable performance and under what conditions a performance should be executed (Walton, 1996:8-9). The terms 'competence' and 'skills' are known to the public at large, and terms such as 'modules' and 'units' were around before competency-based education re-defined and included them in the competency jargon. In the view of the researcher the real objections should not be about the terminology, but about the acceptability or not of the ideas that the terminology communicates. Curriculum designers should not be blinded or misled by labels but should assess the meaningfulness of the concepts, otherwise it may seem like a case of 'shooting the messenger'.

### ***CBE assessment of competent performance is flawed***

The nature of CBE assessment requires performance-based assessments to complement the traditional paper tests. Norris (1991:334) asserts that the criteria indicative of evidence of competent performance can be highly reductive or they can be highly generalised and thus ignore

the variables of situational contexts. There is no disagreement about the fact that criteria for judging *complex* competent performance may not *always* be perfect. On the other hand, in most cases it is very possible for experts to judge competence effectively. Assessment of performances of pilots, dentists or managers is done successfully all over the world. There is an additional criticism from Norris (1991:336) who believes that the criterion standards are in essence *arbitrary*. Education is by nature subjective, implying that even national standards are arbitrary. That is why educational institutions and governments reserve the right to evaluate qualifications. The problem of arbitrary standards is therefore not a problem of CBE only. CBE curricula address the arbitrary standards issue to some extent by involving as many national stakeholders as possible in order to determine the quality of programmes. A national effort might be more credible than the effort of a single institution.

Norris (1991:336) moreover discards the competency-based assumption that the assessment of knowledge or performance, taken together or separately, can cope with the range of context dependent and contingent nature of professional action. According to the researcher, acceptance of this would be to ignore the nature of deep learning and the possibility of transfer of learned ideas. Even if this view is partly acceptable, it does not mean that programmes could not emphasise the principles underpinning competent performance and create awareness in students that different contexts require different applications of the relevant principles. Bowden and Marton (1998:171) recommend that generic competencies should not be developed independently and then applied to professional situations. These competencies should rather be developed through integration of subject knowledge and practical (workplace) experience.

Although Penington (1994:79) and Norris (1991:337) are sceptical about the difficulties involved in assessing generic competencies, current practices exist that assess competencies successfully in programmes: nurses have OSCE's, doctors a practical year, teachers have teaching practice and lawyers have mock trials. The competency movement thinkers deserve credit for elevating the issue of generic competencies and demonstrating their assessment. Assessment of competencies especially, can be done in the workplace and simulated settings although this requires proper management, and can be costly and time consuming (Walton, 1996:94). According to Jessup (1991:48) a positive feature of CBE regarding assessment is that a combination of competence evidence is collected over time and preferably from different sources to ensure reliable judgement.

### *Inherent limitations of designs*

Each curriculum approach offers a particular view of why it can solve the current ills of programme design and implementation. In addition, educational approaches to programme design such as the subject-based, competency-based or reconstructionist approach have one element in common: they normally develop as a reaction to the flaws of some existing approach (Posner, 1992:258). The competency-based approach developed because the real life needs of being competent were not addressed adequately by the subject-based approach, just as the cognitive learning theories developed as a reaction to the behaviourist learning deficits. Posner (1992:258-9), acknowledging Schwab (1970), reminds us that all curricula based on a particular theoretical perspective has three inherent limitations:

1. *The failure of scope.* A curriculum approach is typically grounded in concern for only one foundational component, be it for the individual learner, society, bodies of knowledge or competencies.
2. *The vice of abstraction.* Even the best of theories abstracts a general or ideal case. It leaves behind the non-conformities, the particularities, yet a curriculum is brought to bear on the concrete reality in all its completeness and uniqueness.
3. *Radical plurality.* Each school or approach in all the behavioural sciences has its own particular principles and features and as such are then radically incomplete. It follows that curriculum theories should be reflected upon and their narrow perspectives supplemented to match the complexity of reality.

In regard to the first inherent limitation ‘failure of scope’ Posner (1992:258) contends that any curriculum that fails to account *equally* for all these foundational components has a fatal flaw and will eventually undermine itself. ‘Equally’ means that no one component should be subordinate to another. The term ‘based’ in ‘competency-based’ reflects the stronger reactionary CBE focus on one component. It could however be pointed out that CBE corrected its narrow initial scope that defined education in terms of competencies only and now balances its focus to include underpinning knowledge, the needs of society, the learning process and the learner (Warwick Institute for Employment Research, s.a.:2-3). The CBE model variations reflect the earlier

‘traditional’ and latest ‘transformational’ model that demonstrates the development of CBE (cf. 2.3.3).

In regard to the second inherent limitation of programmes, it could be stated that CBE programmes describe the details of design and *implementation* well (York Technical College, 2001: Chapter 2:2). In terms of the third limitation, CBE addresses narrow perspectives by accepting that education is more than the mere transmitting of subject knowledge, that quality education combines theory and application and that educational institutes carry some responsibility for promoting learning success for all (Spady, 1994a:9).

In a summary of the critique against CBE it appears that if particular possible disadvantages are addressed CBE might be appropriate for teacher education because of the following: It incorporates both training and education perspectives while focussing on both the process and product of education. In addition, it moves beyond the behaviouristic outcomes and includes cognitive and affective outcomes to empower teachers while acknowledging the role of context and culture. Furthermore, CBE is a paradigm and curriculum design with a strong focus on the role of assessment and management of the programme implementation. It was also pointed out that education is not neutral and CBE with its means-end design is no more or less a form of human engineering than any other programme design. CBE quality is defined in terms of a combination of relevant occupational competences and knowledge and needs not necessarily be equated with lowering of standards. The establishment of National Qualification Frameworks do impact on the academic freedom of teacher education institutions, however, institutions have ample freedom to move beyond the minimum requirements. The Namibian teacher education context requires understanding of CBE terminology which might appear strange; however, educators could make sense of the terminology by relating it to traditional terminology and reflecting on the *meaning* rather than the terms of CBE. Assessment of competence is complex and poses several challenges; however, the existing teaching practice tradition suggests that performance can be judged fairly accurately by trained assessors.

It seems that CBE has developed beyond the initial reactionary perspectives to more holistic principles and a balanced scope. The three CBE models reflect also this development of CBE (cf. Section 2.3.3). Grant, et al. (1979:5) maintains that one “cannot be ‘for’ or ‘against’

competence-based education any more than one can be ‘for’ or ‘against’ testing.” “One has to ask: What kind of competence program?” It would however require expert CBE designers and implementers to maximise the potential of the CBE approach by addressing the possible limitations of CBE.

In order to answer the question about the appropriateness of CBE for teacher education, the above discussion on the criticism needs to be extended to additional positive and negative features of CBE. The next sections examine, therefore, the possible advantages and disadvantages of introducing CBE in teacher education.

### **2.6.2 Advantages of introducing CBE in teacher education**

The question that should be answered is what would a university gain when changing to CBE teacher education programmes? The decision to change to CBE is dependent upon many factors however, a reflection upon the perceived pros and cons of a competency-based orientation could be useful for teacher education programme decision makers. This section explores the advantages and the next section the limitations of changing to CBE as emerging from the literature on the topic.

#### ***National development***

A CBE approach introduces national standards for teacher education. Such standards typically encompass knowledge, skills, traits and values (cf. Chapter 1, Section 1.4.5) CBE is thus addressing character and competency development (Bowden, 2000:7; Spady, 1994a:55) which are necessary for national development (Covey, 1992:31). The Namibian Professional Standards for Teachers (Ministry of Education of Namibia, 2006:9) include, for example, areas of competence in “Guidance, Counselling and Support”, “Health and Safety”, “Networking” and “Community Development” which might be helpful in promoting national citizenship and national identity, apart from developing competent persons to support economic development (cf. Section 2.3.3) as part of national development. The quality of national standards depends, of course, on those people who were on the ‘standards committee’ and ‘what standards’ were identified. It should also be recognised that even ‘good standards’ might not be incorporated successfully into teacher education programmes or institutional assessment practices lack

rigorous assessing of competence and knowledge. In such cases national development would be rather limited.

### ***Quality assurance***

Both the academic and employment world values quality education where quality is linked to concepts like ‘competence’ and ‘standards’, because “...*everybody is for standards and everyone is against incompetence*” (Norris, 1991:331). The problem for universities is how and by whom ‘competence’ is defined. To address this concern CBE involves relevant stakeholders and as such quality education is defined from both the *client’s* and the *providers’* perspective (Kerka, 2000:2). According to Rosen, Olson and Cox (1977:17-21) of the National Advisory Council for Career Education in Washington quality programmes demonstrate a clear match between work and education, or between the ‘competent worker’ and the ‘quality graduate’ (Bowden and Marton, 1998:97). This match involves both *content* and *learning approach*.

If universities want to be judged as institutions of quality education, ‘quality’ to be achieved by teacher education programmes must be defined clearly. Waghid (2000:106-109) acknowledges the work of Harvey and Green (1993), Harvey and Knight (1996) and various other authors to explain quality in higher education according to five perspectives: ‘quality as exceptional’, ‘quality as perfection’, ‘quality as fitness for purpose’, ‘quality as value for money’, and ‘quality as transformation’. Quality as ‘exceptional’ can be associated with the notions of ‘exclusivity’, ‘excellence’ and a product which has passed a ‘set of quality checks or standards’. The latter notion appears to be applicable to a CBE teacher education programme design (cf. Section 2.2.1). Quality as perfection aims at both a “zero defects” and things are “done right the first time”. Seeing that a teacher education programme is very different from a zero defect technical product and that programmes are continuously changing, this notion of quality is therefore not a primary focus for teacher education. CBE designs are typically following the ‘fitness for purpose’ notion that translates as being responsive to the ‘needs of students, employers, government and society’. The systematic nature of CBE curriculum designs fit well with the notion of quality as ‘value for money’ that refers to effectiveness and efficiency. According to Waghid (2000:108) the view of ‘quality as transformation’ typically encapsulates continuous quality improvement, management of change, bottom-up empowerment and top-down (internal and external) auditing. CBE’s ‘responsive’ purposes and attention to proper management promote ‘transformation of society’.

It appears, therefore, that the CBE's notion of quality education encompasses several of the above mentioned notions such as 'fitness for purpose', 'meeting national standards' and 'transformation of society'.

Additional features of CBE that might promote quality are the application of 'experiential' and 'deep learning' (Hendricson and Kleffner, 1998:185), encouragement of responsibility for your own learning co-operation among students (Elbow in Grant, et al. 1979:110-113). This student-centred or 'client oriented' characteristic of CBE creates a supportive learning environment while being hard-nosed in respect to meeting standards (Jessup, 1991:3).

Quality teacher education is also influenced by some principles of quality programme design. Carl (1995:86-88 ) and Lubisi, et al. (1998:4-8) identify such principles, for instance: 'clear objectives', 'relevance', 'integration of theory and practice', 'differentiation, redress and learner support', development of 'critical and creative thinking' and 'mobility between national institutions and programmes'. These principles are contributing to quality education and CBE rates positive against them as indicated in Table 2.3 and 2.4.

### ***Competitive advantages***

The New Jersey Commission on Higher Education (1999:3) identifies significant future challenges facing higher education.

- (a) Increasing competition for limited public resources among various state priorities and obligations;*
- (b) Growing public expectations for accountability, productivity, and cost containment;*
- (c) The changing mix of students and student needs driven by shifting demographics;*
- (d) Rapidly changing technology and the global environment;*
- (e) The labor market's growing demand for worker flexibility and new job-specific skills; and*
- (f) The competition from new providers of postsecondary education.*

Teacher education programmes that would address such future oriented challenges might give institutions a competitive edge. The question that should be asked is whether CBE could address

such challenges with a high degree of success? A focus on real workplace needs and a diversified organisation of knowledge leads to diversified qualifications and more employers and students' needs could be accommodated. This could attract students and also open up the opportunity to negotiate with satisfied stakeholders for financial support which is increasingly constrained as governments trim spending (Standa in Dialogue on innovative Higher Education strategies, 2003:14; Gultig, 2000:38). Diverse qualifications could furthermore compete better with private providers of higher education. A larger intake of working adults with programmes at non-peak slots could result in more effective utilisation of existing facilities. Clear programme outcomes support accountability towards students and employers alike and accountable academic management might reduce waste of time and money. Overall, it appears from Section 2.5 and 2.6 that the adoption of well designed and implemented CBE teacher education programmes could give a higher education institution a competitive edge in terms of quality programmes, status and market share – although it is a lot easier said than done.

### ***Reducing overload of programmes***

Globalisation raises challenges for the design of teacher education programmes in terms of teachers' understanding of international teaching developments. Even more challenging from the globalisation perspective is whether teacher training should encompass teaching for tolerance and peace; promotion of human rights; understanding of other cultures and religions; having the ability to communicate in international languages and possess computer skills (Boschee and Baron, 1993:20). If these issues were to be addressed in additional subjects to the classical subjects, the teacher curriculum will be far too overloaded. *“There is a growing concern that the amount of information available is outstripping man's intellectual and functional capacity for handling its growth and complexity”* (Higgs in Van der Vyver, 1996:75).

This overload of information in curricula is a constant problem on all levels of education. It is apparent that the information explosion necessitates the use of some criteria for selection of programme content and CBE suggests a coherent 'fit-for-occupational-purpose' as the logical criterion. CBE also integrates subject knowledge into units and modules (State Training Board of Victoria, 2000:1) connected to the roles of the teacher (Hauck and Jackson, 2005:3) that further reduces overload and allows accurate detection of duplication. 'Working in teams' or



‘working together’ as a generic skill (Doherty, 1994:91) could for instance include topics on democracy, tolerance and keeping peace in the world.

***Broader access***

Universities are faced with increasing pressure to adjust to social, economic and political environments (Hall, 2002:31). One adjustment expected from universities is to improve access to them. ‘Inclusive education’ entails the principle that all learners have the right to feel welcome in a supportive educational context. Furthermore, it is increasingly recognised that inclusion is by no means only about the full integration of learners identified as either physically or cognitively disabled. It is about responding to the diverse needs of ALL learners in order to avoid learning breakdown or exclusion (Hall, 2002:32). Is ‘inclusive education’ applicable to universities too? The answer is clearly ‘yes’ since access to higher education is concurrently perceived as a right. A CBE teacher education design appears to address the idea of ‘inclusive access’ as reflected by its possible application of recognition of prior learning; developmental programmes; clear expectations expressed by outcomes; supportive materials and policies and by offering more types of qualifications with trans-discipline modules, experiential and work-based learning. Institutions need to take care, however, that an ‘inclusive access’ view does not lower the admission criteria and that the pre-entry programmes assist students to attain the required admission criteria.

***Improving its public image***

Bowden and Marton (1998:95) report on a survey by Harvey (1993) of both university academics and relevant employers in the UK, all of whom were asked to rank the importance of 15 suggested criteria by which employers assess graduates. The top five criteria of both groups were:

<b>Employers</b>	<b>Academics</b>
1. effective communication	1. effective communication
2. problem solving ability	2. problem solving ability
3. analytical skills	3. analytical skills
4. flexibility	4. independent judgement

It is interesting to note that both groups rated specialist subject knowledge among the last two of the fifteen criteria. Harvey's interviews revealed that the reason for the low rating of knowledge was because of the employers' perception of the short shelf life thereof and the fact that graduates are often unable to apply knowledge. This does however not mean that knowledge and understanding of it is not important, but other factors were seen (including by academics) as even more important. Bowden (1989) conducted similar research, excluding the employers, but including academics from Australia, Hong Kong, Sweden and the UK covering a wide range of courses, cultural and system variations. Their answers to the question of what they saw as the learning goals of degree programmes that would produce a competent graduate, included:

- ❑ *knowledge of core facts, procedures and skills*
- ❑ *understanding the core concepts and the relationship between them*
- ❑ *understanding the structure of knowledge in related disciplines*
- ❑ *understanding of the theory-practice relation*
- ❑ *ability to define and solve a problem*
- ❑ *communication skills, literacy and numeracy skills*
- ❑ *insight and lateral thinking* (Bowden and Marton, 1998:96-97)

It is clear that many academics and employers regard 'generic skills', 'understanding of subject knowledge' and the 'ability to apply it in different contexts' highly. In view of the above public expectations the status of a university appears to be related strongly to *knowledgeable and competent* students. This is supported by the president of Stratford College who maintains that the CBE approach has produced students who are rated positively by industry (Shurtz, 1999:1). Poorly planned and executed CBE programmes would obviously not develop such knowledgeable and competent graduates.

It seems logical that many of the previously listed CBE features (cf. Table 2.3, 2.4) such as broader access; involvement of employers as stakeholders and nationally recognised quality of programmes could contribute to the public image of a university. Some central stakeholders that are important for shaping the public image of a university would be the government, the

employers and the students. The Namibian strategic planning document for national development (Namibia Vision 2030, 2004:91, 95) indicates that the Namibian government aims to improve access and efficiency in the education system; develop locally relevant curricula; develop modularised programmes; encourage lifelong learning and enhance competencies. These features are inherent of CBE teacher education programmes and if UNAM changes to CBE it would be meeting these governmental aims and improve its public image greatly.

The public image of an institute would be further enhanced if students and staff experienced effective institutional and instructional management and teaching-learning support. Blank (1982:24) reports that when CBE programmes in the USA were well designed and implemented the typical student improvements that were reported, were as follows:

- ❑ *Students seem to learn and remember more.*
- ❑ *More students excel.*
- ❑ *Lower test scores improved dramatically*
- ❑ *Students learned to take more responsibility for their own learning.*
- ❑ *The experience of success, learning support and real-life value content seem to produce a high moral in students*

These benefits are, however, only possible if the CBE programme is ‘well designed and implemented’.

York Technical College (2001:6) finds that CBE contributes significantly towards the motivation of students; strengthening lecturers’ confidence that their standards are acceptable and that staff ‘work coherently’ towards accepted common outcomes. The next section about the disadvantages of CBE points out that co-operation of staff requires skilful ‘managing of change’ and that ‘interpersonal conflict’ is another of the major stumble blocks of making CBE work. Staff and students disgruntled about CBE could thus harm the image of an institution instead of improving it. Overall though, it appears that CBE teacher education programmes might improve the public image of an institution.

### ***Research and publications***

It seems reasonable that the mere change to a new educational orientation would stimulate more research and publications regarding the orientation (Le Grange and Newmark, 2002:51). Such research might focus on outcomes, organisation of knowledge in a curriculum, performance assessment, national standards, involvement of stakeholders, recognition of prior learning and other issues. Breier (2001:2) identifies, for example, some internationally concerns impacting on higher education programmes such as *'different forms of knowledge'*. This concern according to Breier involves: To what extent should the curriculum accommodate knowledge traditionally regarded as non-academic, local, or indigenous as opposed to knowledge characterised as international or global?

The CBE debate has, however, not only accentuated the role of knowledge but required thinking and research on many former views regarding the role of higher education, teaching and learning, assessment and academic management. In addition, evaluative and applied research regarding the effectiveness of the new theories and practice might be expected, especially in developing countries where there is a strong need to address social problems (Ravjee, 2002:86). Blunt and Cunningham (2002:135) warn however that research output could drop because of the time and other demands on lecturers, if workloads are not adjusted for CBE conditions.

### ***Staff development***

Spady (1994a:128-130) finds the following growth effects due to the introduction of CBE in secondary schools. Although the context is different from a university one, the implementation features of CBE could be expected to stay fairly constant:

- *School staff are now much more research-oriented as they seek better ways to do things.*
- *All staff in the system perceive their roles differently than before.*
- *Everyone is compelled to go into 'learning mode'.*
- *Both people and their organisations stretch beyond conventional boundaries. Staff recognise that many old practices are obsolete and must be changed.*
- *Staff professionalism has increased as more of them have received in-depth training.*

In a developing country such as Namibia the continuous changes since independence in 1990 caused Faculty of Education staff to be hostile towards change. In addition, workloads allow

little time for training in CBE and finances for training are limited. If faculty management does not succeed in securing resources for training it is doubtful whether Spady's (1994a) results would be achieved at UNAM.

Grant, et al. (1979:257) maintain that for all of its difficulties, it is clear that competence-based education has profound effects and list the following to substantiate these profound effects:

- *Many lecturers have said that competence-based education forces them to examine themselves in new ways as educators.*
- *Competence-based education can offer a powerful tool to reconceive and reorganise a curriculum.*
- *It can delineate a new conception of the lecturer's role and of the disciplinary boundaries.*
- *It is not just a tool for faculty accountability, it is more often a tool for faculty development and self-examination.*

The researcher could agree with these findings as he experienced most of these effects during weekly meetings stretching over a year as chair of the Curriculum Coordinating Committee in the Faculty of Education at UNAM. Bowden and Masters (1993:140) also found that Australian academics perceived the CBE design process as an opportunity for them to re-assess their educational philosophies, many aspects of their courses and teaching methodologies. The point is that the change to CBE stimulates personal and professional growth if adequate ongoing discussion and training is provided.

In summary, the introduction of CBE teacher education programmes might have the following advantages, given proper planning, resources and management: It promotes national development and quality assurance. Educational institutions might experience a competitive advantage in terms of market share and the programmes overload could be reduced. Broader access to teacher / university education is promoted while a positive public image because of knowledgeable and competent teachers could be enhanced. Scrutiny of CBE effectiveness stimulates an increase in research and publications about instructional and management practices; while staff development is supported owing to reflection on CBE theories and practices.

The analysis of the above CBE advantages appears to suggest that CBE as a conceptual framework might be appropriate for the design and implementation of teacher education programmes, given that particular pitfalls are observed and addressed. The possible advantages of CBE need, however, to be considered in conjunction with the possible limitations of introducing CBE in teacher preparation programmes. The next section analyses such possible key limitations of introducing CBE teacher education programmes.

### **2.6.3 Limitations of introducing CBE in teacher education**

The philosophical criticism levelled against CBE in universities is of course applicable to the topic of limitations of CBE. The criticisms of having a competency focus, of being behaviouristic, of the fragmentation of knowledge, the watering down of academic knowledge, the lowering of standards, the reduction of institutional autonomy, the terminology and assessment of competence were addressed under Section 2.6. This section (2.6.3) will not repeat those philosophical *design* issues. Instead it will identify possible *implementation*-related limitations of CBE starting with the ‘management of change’.

#### ***Management of change***

Personal and organisational growth and movement with the times can be seen as an imperative of life: “...to grow or die, stretch or stagnate” (Covey, 1992:284). The features of a new teacher education orientation, should be understood and the managing of the ‘stretching’ handled very delicately.

According to McCann, Babler and Cohen, (1998:202), Burke (1989:129) and Grant, et al. (1979:237) the acceptance and design of a CBE teacher education programme proposes considerable change to a subject-based orientated higher education system, such as: new beliefs about aims of higher education, new beliefs about the content, methods of teaching and learning and new standards and forms of evaluation. It is evident that a change to CBE involves a lot more than selecting content for a programme and need therefore to be managed very carefully, because educators naturally resist change for different reasons, like being afraid that they can not perform well in the new system, or fear of losing their present power, or anger over having their expertise made irrelevant, or jealousy that someone else may take the spotlight, or real doubts about the

long term success of the new way of doing things (Department of Education of South Africa, 1997a:8).

According to Doll (1996:307) the following issues might prevent the acceptance of change to CBE teacher education programmes: (a) The (in) effectiveness of the current programme is not clarified. (b) Not broad enough and valid data is utilised. (c) Individual differences of people and institutions are completely ignored. (d) Key stakeholders, especially those to implement it, are not involved in the planning of a programme. (e) The planning of a programme does not extend to the proper management of the individual and organisational change involved. (f) It is not clear how the new programme is of higher quality than the existing one. Doll (1996:314, 319) continues to point out that there should be particular actions to manage both ‘individual’ and ‘institutional’ change.

An additional key issue that needs management is the organisation of knowledge in subjects, since it determines the whole organisational culture; its philosophy, management and teaching and research activities (Blunt and Cunningham, 2002:132). According to Luckett (2001:55) the ‘scientism’ or discipline-based knowledge perspective views knowledge as “...*objective, free-standing, decontextualised, prepositional and hierarchically classified and structured by the disciplines.*” (Luckett, 2001:55). Luckett continues to point out that a post-modernist view has changed the notion of authoritative knowledge as it suggests that all knowledge claims are *local, partial and contextually specific*. A CBE *constructivist* epistemology and theory of learning suggest that knowledge could be organised in many different ways depending on aims or criteria employed while individual learning is a search for *personal meaning* rather than *right* answers or the *true nature* of things (Adobe Go Live:s.a.:1; Abdal-Haqq, 1998:1). The point is that the comprehensive changes required by a change to CBE need skilful management of change which involves ‘support of management’ (Blunt and Cunningham, 2002:133) and ‘ongoing internal communication’ (Pliska and McQuaide, 1994:69).

### ***Administrative and programme changes***

The traditional management style of universities allows lecturers much freedom to select course content, teaching methods and assessment practices. Close cooperation between individuals and departments is, however, part of effective management (Van der Westhuizen, 1995:53) as is

networking, accountability, teams and coalitions (Smit and Cronje, 2002:471). The implementation of competency-based programmes will involve and require the modification of a number of subject-based administrative and management procedures, like “...*access to the programme; learner progress; staff duties and workloads; records of competency-achievement; finances; integration of on-the-job and off-the-job learning; use of materials and resources; recognition of prior learning; registration as a training provider; and recognition of the course or training programme*” by the relevant qualification authority (Harris, et al. 1995:252).

In addition to such administrative and programme changes, Lockett (2001:58-59) proposes the following changes for consideration: A modular curriculum structure and a uniform credit-weighting system; academic reward and promotion systems would need to change to accommodate the new kind of teaching and curriculum; the nature of higher education institutions would have to become more open and flexible in order to provide learning which goes beyond propositional knowledge (knowing that); the administration of workplace learning need to be addressed and workplace assessors must be trained; learners must have access to information technology and understand their new role; and assessment policies and practices would have to incorporate assessing a range of competencies and apply self- and peer-assessment.

To achieve this broad spectrum of changes, strong leadership and management would be required in a Faculty of Education. Absence of such leadership would impose strong limitations on implementing CBE. In addition, the fact that *both* the *administrative* and the *academic components* experience extensive changes could be a serious limiting factor to the successful introduction of CBE teacher education programmes. Furthermore, it might be extremely challenging if only the Faculty of Education changes to CBE since that would imply maintaining two types of administration and programmes within a university.

### ***Interpersonal conflict***

It is to be expected that serious conflicts will erupt if new CBE perspectives are challenging ingrained beliefs and practices of many years. Grant, et al., (1979:224-258) describe some experiences of United States Colleges where competency-based education was implemented. At Alverno College department structures changed (in1973) to combine competence divisions with



disciplinary divisions and dissidents had resigned or been forced out. The conflicts between the Antioch School of Law faculty and administration – and the resultant suspicion of CBE on the part of the faculty – slowed down its implementation. At Florida State University the majority of staff displayed an attitude of indifference. Resistance to CBE and accompanying interpersonal conflict was also found in industry and higher education in Australia (State Training Board of Victoria, 2000:2).

It appears that the introduction of CBE teacher education programmes is riddled with dissent and power struggles between stakeholders. Unless disagreements are handled professionally many interpersonal relationships may break down and staff might resign. Interpersonal conflict could thus influence the implementation of CBE negatively since CBE requires close cooperation among internal and external stakeholders. Without the purposeful management of the changes and building of a team spirit the interpersonal conflicts caused by CBE might be seen as a limiting factor for the introduction of CBE teacher education programmes.

### ***Staff development***

The management of change could be linked with the development of staff regarding CBE perspectives. According to Argüelles and Gonczi, (2000:27) problems with the implementing of CBE could always be related to the failure of training those involved with the development and implementation of a CBE system as this approach is likely to be very different from their past educational training. Sullivan (1995:4) corroborates this view by pointing out that persons have a tendency to “...*teach as we were taught.*” Without staff development the introduction of CBE might thus fail. Burke (1989:129-130) proposes that such staff training needs to develop understanding and skills of CBE assessment; being a facilitator; time and record management; team teaching; counselling and industrial liaison.

The need for such Faculty of Education staff development could therefore be perceived as a limiting factor when introducing CBE since additional time and money would need to be allocated.

### ***Student orientation***

As in the case with staff development, students would need guidance regarding CBE requirements: “*Student counselling and orientation become critical backups to the program.*” (Grant, et al.1979:227). Grant, et al. (1979: 252) furthermore suggest that the reality pointed out that students need ‘orientation programmes’ to familiarise them with the new kind of education requirements, e.g. regarding responsibility for their learning, theoretical and practical assessments and the standards for passing. The programmes that depended on self-pacing found that students were unable or unwilling to pace themselves, and slow student progress could mean low credit generation and that could appear as poor pass rates as well as lower income generation for the institution. A further challenge related to self-pacing is that lecturers have to repeat explanations for many individuals and that amounts to a high workload (Grant, et al. 1979:253).

Further and more recent reports about the findings of CBE related to students’ orientation in Australian TAFE (Technical and Further Education College) programmes, indicated that:

- *The relationship between lecturer and students has changed – the lecturer being more of a facilitator of learning opportunities;*
- *Self-pacing was based on workbooks, videos or computers, but students very often were not ready for this independent management of their study;*
- *Students often did not study for tests, because they could get another two opportunities to master the relevant sections;*
- *Students needed to learn how to work in groups.*
- *In some institutions students were assisted by tutors. (Smith, 1999:6-8)*

In the final analysis, students need guidance regarding their changing roles but the question could be asked whether admission criteria should be brought in line with their expected roles and how programmes would support them in meeting self-directed requirements. Clearly, the implementation of this feature has implications for the availability of staff and other resources. This issue can therefore be viewed as a limiting factor regarding the introduction of CBE.

### ***Involvement of stakeholders***

According to Gravett and Geyser (2004:152) the situation analysis phase of the programme design process entails the involvement of stakeholders. Apart from the input of the National

Qualification Authority regarding standards, the needs of other stakeholders such as employers, academic staff and students should be accommodated as well. Various methods could be applied in determining such needs, for example, interviews, advisory groups and questionnaires (Rothwell and Kazanas, 1992:52). The DACUM (develop a curriculum) process has the advantages of personal contacts with stakeholders (Kennedy, 1993:5). The involvement of internal and external stakeholders is important in terms of creating a 'relevant' or 'responsive' programme (Breier, 2001:2). Once again, the administration needed to involve stakeholders could be quite demanding and time consuming, and this could be perceived as a limitation for the effective introduction of CBE teacher education programmes.

### ***Teaching-learning resources***

The CBE emphasis on learner support, expanded learning opportunities (Spady, 1994a:14-15) and experiential learning to develop competencies requires adequate teaching-learning resources (Hauck and Jackson, 2005:5). Active and self-directed learning requires the availability of resources such as micro teaching and computer laboratories, workplace opportunities, videos, power point presentations, Internet access, tutoring rooms and printed materials. Some of the traditional textbooks might not be adequate for multidisciplinary modules. Since new textbooks would only develop over time, provision should be made for relevant learning materials. The resources are not optional but integral to CBE (Killen, s.a.:14) and if not addressed, inadequate resources can limit the introduction of CBE teacher education programmes.

### ***Assessment of competence***

CBE focuses on competence. According to the definition of competence (cf. Section 1.4.3) it is logical that assessment should measure the degree of 'competence' (as long-term qualities a person owns or characteristics of being capable) and 'competencies' (as attributes externally imposed on a professional's roles and tasks). Performance assessment thus involves more than paper and pen tests and should include new assessment techniques for the assessment of practical demonstrations of the relevant skills (McNeir, 1993:1). Kerka (2000:2), Bowden (2000:7) and Toohey, Ryan, Mclean and Hughes (1995:93) advocate 'integrated assessment' that views competence as a complex combination of knowledge, attitudes, skills, and values displayed in the context of task performance. This can sometimes be difficult to perform other than in the real life context, which can be either dangerous or logistically difficult. Simulations require resources

and time to accommodate performance assessments. Furthermore, CBE embraces time flexibility (Boschee and Baron, 1993:2-4; Spady, 1994a:42) in regard to learning pace and assessment. This often gave rise to assessment policies that allowed a second chance for formative assessment exercises (York Technical College, 2001: chapter 2, 3, 6).

Performance assessment often needs to make use of 'qualitative judgements' that require expert assessors (Maxwell, 1997:6). Killen (1999:28) and Ling (2000:3) emphasise the necessity of multiple formative assessment opportunities in order to diagnose learning problems and provide feedback to students. This would result in higher workloads for lecturers. Killen continues to point out that 'group assessment' should be applied as well.

It appears that the implementation of performance assessment might demand laboratories, more time, staff development and use of workplace environments and assessors. Professionally qualified personnel in industry could assist in workplace assessments, however they need to be found and approved. Instruments to judge performances need to be designed. An assessment policy allowing a 'second chance' in some cases would cause a higher workload for lecturers. Such issues might cause a resistance towards considering the implementation of CBE teacher education programmes.

### ***Paperwork***

Apart from philosophical criticisms against CBE there are practical implementation issues that need to be considered. One practical concern for critics is that the drafting of outcomes (McNeir, 1993:1) for a programme requires enormous paperwork. The DACUM process (Harrisburg Area Community College, 1999:2-3), the communication with stakeholders (Rothwell and Kazanas, 1992:16, 52), documentation necessary for the training of staff and production of new learning materials (McNeil, 1990:228,231), strategic planning documents (Dubois, 1996:37), and the description of outcomes in terms of range statements and performance criteria (Hyland, 1994:7) consume much paper. Furthermore, there are minutes of task force meetings and administrative records that would have to be altered to record theoretical and practical marks or second attempts to attain a certain mastery level in a test or skill. The detailed documents of CBE teacher education programmes which have advantages for effective management could, however, at the same time pose a limitation in regards to accepting it as a feasible alternative.

### ***Higher workload***

Grant, et al. (1979:246, 226) point out that the intensive interaction between students and faculty members places a great strain on staff that are also devoting energies to designing new courses and assessment materials and going to endless rounds of meetings. Additional workload for lecturers is also created when a faculty supports forms of individualisation such as self-pacing (Grant, et al. 1979:253). Furthermore, a higher ratio of formative assessments and feedback on efforts as well as a focus on performance assessment, would imply a heavier workload for staff (Toohey, et al. 1995:89, 95). This is corroborated by Smith (1999:4) who found that the learner-centred focus caused changes in roles of lecturers and consequently changes in workload. It appears logical that if a workload policy does not accommodate the expected higher workload of lecturers, that staff would perceive a change to CBE teacher education programmes as a negative development.

### ***Start up implementation costs***

The above headings regarding limitations (the management of change, staff development, administrative changes, teaching-learning resources, paperwork and higher workload) suggest that the start up of CBE requires much time, resources, working hours and thus more than the traditional costs (Backgrounder, 1996:4). This deduction is corroborated by the State Training Board of Victoria (2000:3) that ascribes the higher costs due to ‘course development’, ‘materials costs’ and ‘assessment costs’. Geysler (2001:35) points out that the costs involved for implementing the ‘recognition of prior learning’ varies from low to high depending on the utilisation of existing facilities or new activities involved.

According to Blank (1982:18) initial costs for designing and implementing CBE programmes may be higher than traditional costs, however, over the long run CBE is not necessarily more costly if the quality of education and pass rates are brought into the equation. If initial costs are not related to the longer term advantages such as a positive public image due to competent graduates and cooperation with stakeholders, starting costs may be a severe limiting factor for introducing CBE teacher education programmes.

In conclusion to this section, it appears that the introduction of CBE might have serious limitations such as the following: the managing of individual and institutional change requires

time and ongoing communication, otherwise stakeholders' acceptance and co-operation will be limited. A broad spectrum of administrative and academic changes is required resulting in disagreements that fuel interpersonal conflict which often prevent co-operation among internal and external stakeholders. Such resistance could result in unsuccessful programme implementation. Another limitation is that without training of staff in CBE perspectives the implementation of a programme is likely to fail. In addition, students must have the ability to be self-directed learners, be committed to take responsibility for their learning and student support resources must be available for CBE to be successful. Furthermore, the involvement of many stakeholders through different methods is time consuming and administratively demanding while the CBE teaching-learning and assessment perspectives require a range of resources for students and staff without which very limited quality education could be achieved. Moreover, the implementation of performance assessment requires new assessment policies, instruments and simulated and real workplace environments while the design and implementation processes of CBE require enormous paperwork. The planning, teaching-learning and assessment practices result in higher workloads for staff and the start-up implementation costs are usually high.

In view of the above limitations it is understandable why some institutions might back away from CBE while others have experimented with and devised solutions to CBE teacher education challenges. What is clear, however, is that without addressing the possible limitations purposefully the perceived advantages of CBE could be considerably neutralised. Programme designers in the Faculty of Education at UNAM would thus have to consider the possible limitations and decide whether the UNAM context could address these possible limitations successfully. In fact, even if the UNAM context is not ready for CBE, it is obliged to accredit its teacher education programmes with the CBE oriented guidelines of the local National Qualification Authority.

Hitherto, Chapter Two explored teacher education models, paradigms and strategies in developing countries (cf. 2.2), CBE characteristics applicable to teacher education (cf. 2.3, 2.4), how it differs from SBE (cf. 2.5) and its appropriateness for teacher education (cf. 2.6). These sections addressed a major part of the first research sub-question (cf. Chapter One, Section 1.3) about the appropriateness of CBE for the design and implementation of a teacher education programme. The analysis of the CBE characteristics, advantages, limitations and its correlation

with valued features of teacher education models appears to suggest that CBE might be appropriate for the design and implementation of teacher education programmes at UNAM, given that particular pitfalls are observed and addressed. The appropriateness of CBE for the Faculty of Education at the University of Namibia is addressed further in Chapter 6.

The second research sub-question that explores a CBE design and implementation framework for a teacher education programme is addressed in Chapter three.

## **2.7 SUMMARY**

Chapter Two addresses the research problem of “In what way can CBE serve as a useful theoretical framework to plan and implement a teacher education programme”? To address the research problem an examination of international teacher education models was done and it revealed that: teacher education models could display different features regarding issues such as the length of the programme; total weeks of teaching practice and centralisation or decentralised control of the programmes. These models also reflect different types of partnerships in the design and delivery of the programmes; the pedagogical focus of academic subjects; the values to be developed in teachers and emphasis on particular issues such as learner-centred, multicultural, best practice and reflective practitioners. At the same time such models have some generic features that address both a ‘general education’ and ‘occupational competence’ e.g. the recognition of cultural diversity, problem solving skills, teacher as facilitator of learning and assessment, depth of subject knowledge, understanding of learners and the learning process, the ability to apply different methods and technology, field experience / teaching practice, ongoing professional development, the importance of partnerships and the realisation that the ultimate criterion of effective teaching is the growth in learners’ learning.

Several teacher education paradigms were identified on the basis of their purposes. It seems that political powers tend to replace (in teacher education at least) the traditional academic subject-based paradigm with the technological / CBE paradigm in spite of criticism against the latter. In the 1960s formal initial competency-designs were tried in primary and vocational teacher education in the USA and then evolved and developed to other contexts and countries. Germany was the second nation to implement CBE ideas with the establishment of their dual system of

vocational education in 1969. Australia implemented CBE designs in 1987 and the UK in the 1980s. In 1989 New Zealand adopted competency standards for all levels of education and in Canada competency standards were adopted in 1993. In the late 1990s CBE took root in South Africa and Namibia. Teacher education strategies in developing countries, such as Namibia, appear to favour the CBE transformational model for its possible contribution to national development, standardised programmes and accountability.

The different unique characteristics of CBE have been discussed and it was concluded that a CBE programme design and implementation framework could not be truly CBE if the following features are not accommodated: There are various models of the CBE paradigm while certain philosophical perspectives permeate the programme design and implementation. Outcomes as intended results are specified and encompass knowledge and competencies. Some or all of the programme content is organised into modules rather than disciplines and occupational roles are developed into exit and learning outcomes that serve as the starting point of a systematic 'design down' process. A learner-centred and constructivist-related teaching-learning perspectives are applied. Assessment of knowledge and competence focus on deep learning and transferability while detailed programme design and implementation documents are created that serve accountability needs. The recognition of prior learning is also advocated. A CBE teacher education design and implementation framework at UNAM would thus have to include these features that show that SBE and CBE differ in defining the purpose and definition of quality education, the scope and depth of programmes, the systematic design down from outcomes, the level of relevance, the range of teaching-learning modalities used, the organisation of content, the extent of assessing performance and level of support of student learning.

Analysis of the *appropriateness* of CBE for teacher education showed that education incorporates training, that CBE has moved beyond behaviourism and that organising knowledge in units and modules is not necessarily negative fragmentation. Moreover, it was shown that selective knowledge is not necessarily equal to lowering standards, that having pre-specified outcomes is not the same as human engineering or that the systematic design is not technicist or inhuman. In addition, it was shown that the level of reducing university autonomy is not unacceptable, that the concepts portrayed by the terminology are more valuable than the terms, and that the assessment of competence is not without many challenges but could be achieved



satisfactorily with proper management. Further support for a decision about the appropriateness of CBE for teacher education was provided by discussing the possible advantages and limitations of CBE programmes.

The *advantages* of introducing CBE in university contexts were seen as its contribution to national development, quality assurance practices, competitive advantages, the reducing of overloaded programmes, broader access, the opportunity to generate higher income, the creation of a positive public image, the increase of applied research and publications and a boost in staff development. The *limitations* of introducing CBE in teacher education were described as the necessity for the management of change to a new paradigm; the fact that the changes are very comprehensive and cover both administration and academic components and that the introduction of CBE is riddled with interpersonal conflict. Furthermore, there is a strong need for staff development, time consuming logistics of involving the stakeholders and the expansion of teaching-learning resources. Other crucial limitations could be the difficulties related to assessing performances, the amount of paperwork involved and the apparently high costs for starting up CBE. The highlighting of the possible disadvantages of introducing CBE programmes could guide Namibian programme designers to pay the necessary attention to particular details in order to prevent poor quality of a teacher education programme.

In order to make a contribution to the main research problem stated as 'In what way can CBE serve as a useful theoretical framework to plan and implement a CBE teacher education programme at the University of Namibia' this chapter explored teacher education models, paradigms and strategies in developing countries, CBE characteristics applicable to teacher education, how it differs from SBE and its appropriateness for teacher education. These sections addressed a major part of the first research sub-question (cf. Chapter One, Section 1.3) about the appropriateness of CBE for the design and implementation of a teacher education programme. The analysis of the CBE characteristics, advantages and limitations appears to suggest that CBE as a conceptual framework might be appropriate for the design and implementation of teacher education programmes, given that particular pitfalls are observed and addressed in the UNAM context.

The data of this chapter is brought to bear in Chapter Six and Seven where the ADEd programme is analysed and recommendations about programme design and implementation at UNAM is made.

The next chapter, Chapter Three, critically analyses programme design and implementation frameworks and expands these conceptualised frameworks via theoretical perspectives.

## **CHAPTER 3: LITERATURE OVERVIEW: PROGRAMME DESIGN AND IMPLEMENTATION**

### **3.1 ANALYSIS OF PROGRAMME DESIGN AND IMPLEMENTATION FRAMEWORKS**

Chapter Three addresses the second sub-question of the research, namely, ‘What constitutes a CBE design and implementation framework of a teacher education programme?’

Chapter Two, Section 2.3.4 and Section 2.4 (Table 2.2) identified the following unique characteristics of CBE that must be reflected by a design and implementation framework of a competency-based teacher education programme: (a) There are three models of the CBE paradigm; (b) certain philosophical perspectives permeate the programme design and implementation, for instance, ‘support to achieve success’ and the ‘integration of education and training’; (c) occupational roles from different categories are developed into exit and learning outcomes which serve as the starting point of a systematic ‘design down’ process; (d) outcomes as intended results are pre-specified and encompass knowledge, dispositions and competencies; (e) some or all of the programme content is organised into interdisciplinary modules rather than traditional disciplines; (f) learner-centred and constructivist-related teaching-learning perspectives are applied, emphasising trained staff, adequate resources, instructional modalities and individualised pacing; (g) assessment of knowledge and competence focus on deep learning and transferability; (h) detailed programme design and implementation documents are created that serve accountability and certification needs and (i) the recognition of prior learning is advocated to promote access to education. These characteristics should, therefore, be brought to bear in the analysis of the ADEd framework as they are incorporated into the synthesised framework (Section 3.4) depicted in Table 3.9.

In addition, the synthesis of CBE characteristics (Section 2.4, Table 2.2) as well as the comparison of SBE and CBE programme characteristics (cf. Table 2.3) provide distinctive CBE features that need to be integrated with the above characteristics by programme design and implementation frameworks, such as: (a) CBE defines ‘quality education’ as preparing persons for life; (b) qualification levels are determined by set standards which are developed with input from many key stakeholders; (c) the emphasis is on outputs captured by outcomes that focus on

both society's utility needs and student academic performances; (d) individualised progression is allowed; (e) lecturers are facilitators and develop self-directed learning of students; (f) integrated assessment focuses on both knowledge and performances and is criterion-based; (g) institutional management structures and policies create a supportive learning environment to ensure a high rate of success for students. These distinctive features are often incorporated into the 'common components' of any programme design, namely: situation analysis; goals and objectives; selection and organising of content; selection of methods, techniques and media; selection and classification of learning experiences; planning and implementation of the instructional learning situation and the assessment of learners (Carl, 1995:94).

It should however be recognised that although both subject-based and competency-based programmes may apply these components in each case, it is done in a vastly different way (cf. SBE –CBE comparison, 2.5). The component of 'goals and objectives' is for example, extremely important for a CBE programme where specified learning outcomes are the departure point for the design of the programme. However, in a subject-based programme goals and objectives may be specified but their nature differs and the same connection between them and the other elements of the curriculum might be weaker. This different implementation of the same common programme components necessitates therefore a more accurate and detailed exploration of design and implementation steps in order to provide a sound basis for analysing the ADEd framework.

The following sections explore ten examples of programme design and implementation. Thereafter the perspectives of these examples are synthesised into a design and implementation framework. The ten examples are sequenced in a chronological order, cover different countries and include industrial training and higher education contexts. Some critical reflections on the ten framework examples follow the discussions of the frameworks which start off with Blank.

### ***Blank's steps***

One of the early comprehensive CBE frameworks from the USA is that of Blank (1982). According to Blank (1982:26) the design of a competency-based vocational programme should include the following steps, with the key issues per step in brackets:

- Step 1: *Describe the occupation* (identify a *specific* occupational title, but not too narrow a focus to improve employability; actual job descriptions could be helpful).
- Step 2: *Identify student prerequisites* (be clear what traits should be developed and what are academic and occupational pre-requisites to enrol for the programme, bearing in mind equal access policies).
- Step 3: *Identify and verify job tasks* (identify job tasks; task statements begin with a performance verb; the designers consult many resources to compile a draft which is then submitted to different types of expert stakeholders via questionnaires or DACUM).
- Step 4: *Analyse job tasks and add relevant knowledge* (comprehensive knowledge modules are often best otherwise knowledge could be learned in an integrated manner while performing tasks; cognitive levels of knowledge should be noted; generic and employable skills could be added to the job tasks; relevant attitudes, equipment and safety rules are also identified).
- Step 5: *Write terminal performance objectives* (write exit objectives for performances and knowledge tasks, paying attention to verb levels and standards).
- Step 6: *Sequence tasks and terminal performance objectives* (the sequence of objectives should be according to logical learning rather than according to the sequence of tasks in reality).
- Step 7: *Develop performance tests* (the development of such tests *before* instruction guide the development of learning material; valid performance tests are crucial).
- Step 8: *Develop written tests* (written tests could have a grading or non-grading function; assessment is criterion-referenced; feedback on tests is an important learning exercise).

Step 9: *Develop draft of learning guides* (study guides is part of learning packages that promote successful learning; acquire also all types of other learning resources).

Step 10: *Pilot and revise learning guides* (test effectiveness of learning guides).

Step 11: *Develop a system to manage learning* (manage issues such as assessment records, physical learning environment, second chance assessment, training of lecturing staff, and administrative structures).

Step 12: *Implement and evaluate the programme* (evaluate student learning, lecturing performance and programme objectives and content).

### ***Discussion of Blank's steps***

Step one implies a 'local' human resources development analysis and thus addresses the *relevancy* of the programmes. Step two involves the characteristics and needs analysis of the target group that impact on academic and political admission criteria. Step three reflects the earlier focus on *job tasks* that were criticised for resulting in atomistic programmes, however, Blank's clarifications do include 'duties' as job 'roles' that represents a more holistic view. The roles and tasks are further developed in step four through the identification of related knowledge, attitudes, equipment and safety rules. Step five requires the formulation of exit outcomes that would reflect the cognitive and performance levels clearly. The more modern development of performance indicators or range statements to convey accurate intentions and conditions regarding objectives are notably absent in Blank's version. The advantages and limitations of having performance and range indicators need to be addressed during the analysis of the ADED steps.

Step six ensures that designers pay attention to the sequence of objectives and therefore learning. The sequencing of objectives is related to their grouping under 'duties'. Blank is not referring to 'units' or 'modules' yet these would need to be sequenced in some manner, however the importance of sequence in a programme is emphasised. Step seven and eight both suggest that performance and written tests are to be developed at this stage before instruction starts. In theory this would focus teaching activities on priorities, however, in reality it might prove to be difficult

for lecturing staff who are offering subjects for the first time. Step nine emphasises that adequate learning resources should be available. The high prices of prescribed books in the Namibian context result in few students buying them and therefore the production of less expensive study materials is crucial.

Step ten advocates the piloting of study material but in reality the initial implementation of the whole programme is rather perceived to be a pilot. This is therefore not a step that the researcher would agree with at this point in the sequence, but maintains it should be part of a later step of evaluation of the complete programme. Step eleven is an important step because it highlights the planning and establishment of an *administrative system* that would ensure the effective implementation of CBE that is more complex to manage than the traditional teaching system. This step requires that university management back up intentions with the creation of ‘a positive learning environment’ through appropriate policies, lecturing workloads, time schedules, certification, committees and resources to name a few. The evaluation of programmes and their implementation as proposed in step twelve is a meaningful step that is often neglected in reality. Programme evaluation could be part of self auditing and this step can not be emphasised strongly enough in both theory and practice.

Seen overall, Blank’s steps emphasise several programme design and implementation steps and important details of such steps in line with the characteristics of CBE (cf. Section 2.3.4, Table 2.3), for instance: occupational analysis with the input of stakeholders, the role of knowledge, learning support, instructional management and theoretical and performance assessment. Recognition of prior learning and developmental programmes are not addressed. Although the range of competencies includes generic and employable competencies, possible wider roles are not included and the compilation of the programme structure and module descriptors is underemphasised. Some implementation aspects and the involvement of external stakeholders are well addressed but the management of resistance to change is not attended to.

### ***Rothwell and Kazanas’ steps***

According to American authors Rothwell and Kazanas (1992:9) ‘systems theory based instructional designs’ involve *inputs* from the environment that are transformed through *operations* and delivered to the environment as *outputs*. These outputs are then evaluated and the

*feedback* is used to bring about improvements. The inputs could be students and information, operations including teaching, learning and administrative activities and the outputs could be graduated teachers or services.

Rothwell and Kazanas (1992:44) propose the following instructional design steps with suggestions about what each step entails. Suggestions for implementation have been placed in brackets:

Step 1: *Conduct a needs analysis.* (what is happening and what should be happening; various possible data gathering devices such as Delphi, questionnaires and DACUM).

Step 2: *Assess relevant characteristics of learners.* (determine methods for assessing learner characteristics; develop a profile of the target group, especially learning styles, knowledge levels, age and gender, geographical location, and values about right and wrong).

Step 3: *Analyse characteristics of a work setting.* (identify characteristics of local work environments to be addressed, e.g. leadership, management, technology, stress, safety, legal requirements, motivation and relationships).

Step 4: *Perform job, task, and content analysis.* (content incorporates facts, concepts, procedures, processes and principles).

Step 5: *Write statements of performance objectives.* (judge whether objectives correlate with the rationale; whether objectives are specific, comprehensive and appropriate in terms of roles, tasks and content).

Step 6: *Develop performance measurements.* (generate criterion-referenced tests, performance checklists and product checklists).

Step 7: *Sequence performance objectives.* (select a principle for sequencing objectives and apply it).



Step 8: *Specify instructional strategies.* (Specify instructional strategies, methods, techniques, settings and media to be used).

Step 9: *Design instructional materials.* (judge the appropriateness of existing materials and develop the necessary lacking materials).

Step 10: *Evaluate instruction.* (develop and apply formative and summative assessment plans; assess processes and products; evaluate the instruction; evaluate the instructional management; use feedback results to improve the system; formulate plans for revision).

Step 11: *Design the instructional management system.* (design an appropriate management system; communicate effectively to manage change and deal with conflict).

### ***Discussion of Rothwell and Kazanas's steps***

Their steps focus appropriately on the situation analysis, profile of the target group and addressing of workplace needs. There is however no attention paid to the level of the qualification, the admission requirements, the rationale and aims of a programme. Other programme components such as recognition of prior learning and developmental courses are also not addressed. The identification of relevant stakeholders to be involved is not mentioned although this is implied by the attention to the methods for involving them. The analysis of the workplace needs does not follow a particular model such as the distinction between a role and a task focus or the identification of categories of roles and tasks, for example basic occupational roles, management roles, environmental roles and contingency management roles. Without such a model the scope and depth of a programme might be too narrow or unbalanced.

The compilation of the programme structure does not mention units or modules but the nature of content and the importance of sequence receive proper attention. Content is seen to include knowledge, principles, processes and procedures that would cover understanding and competencies, but values and attitudes are neglected. The different levels for cognitive, affective and psychomotor learning are appropriately emphasised. The actual implementation of a programme does not receive enough attention. Only steps ten and eleven focus on

implementation, for example, evaluation of instruction and management and the planning of an instructional system that promotes effective learning. Step eleven about the design of instructional management is positioned illogically and needs to be sequenced earlier. A positive aspect of this step is, however, the inclusion of the ‘management of change’ which could be a limiting factor (cf. 2.6.3) if not addressed. No attention is given to budgeting or internal or external approval of the programme. By and large, Rothwell and Kazanas incorporate several of the identified characteristics of CBE (cf. 2.3.4, Table 2.3) such as an occupational analysis that include work environmental roles, writing of performance objectives and performance assessment tasks and the managing of instruction. Step 8 about the specification of ‘instructional strategies’ could however be questioned, as this implies possible infringement of a lecturer’s academic freedom to decide on ways of instruction.

### ***Kennedy’s steps***

Kennedy (1993:7) from The Northern Alberta Institute of Technology (NAIT in Canada) proposes to programme designers of post-secondary institutions the following phases and steps (in brackets) for the design and implementation of CBE programmes:

- Phase 1: *Project planning and initiation*. (select project coordinator; situation analysis to determine programme needs; obtain support from dean and university management; draft project timetable to meet deadlines).
  
- Phase 2: *Staff meetings*. (dean and project coordinator orientate staff regarding CBE and intended programme; staff draft the programme competencies profile that includes generic and future competencies for a beginner or expert level; staff sequence competencies).
  
- Phase 3: *Industry workshops*. (invite relevant stakeholders to serve on an advisory committee or in a DACUM process; define competencies and skills; stakeholders review the draft competency profile and rank them according to high, medium or low priority).

Phase 4: *Competency profile verification survey*. (if deemed necessary after phase three, a questionnaire survey can be used amongst further stakeholders to update and verify the competencies profile).

Phase 5: *Programme re-design*. (establish criteria to evaluate the programme; assign competencies to course/modules and design the overall programme structure; compile module descriptors and course outlines; determine needed resources; provide feedback to industry stakeholders; obtain approval from internal management and external authorities).

Phase 6: *Implementation*. (prepare the implementation action plan; acquire resources and reproduce module descriptors and course outlines; implement the programme).

Phase 7: *Evaluation and refinement*. (obtain feedback from staff, students, involve employers at the end of each semester and evaluate results; refine the programme where necessary according to feedback; inform stakeholders of all changes).

### ***Discussion of Kennedy's phases***

The phase headings are very practical and do not reflect the common programme components such as situation analysis, aims, assessment policy or prior learning recognition. In fact the latter three components are not addressed at all, which is not acceptable. The role and the selection of knowledge are also neglected. A focus on roles rather than tasks is not addressed either. The obtaining of support from management levels, the training of staff and the involvement of external stakeholders are well emphasised. The possible changes to administrative structures, policies and schedules are neglected. No mention is made of categories of roles such as 'job environment skills' or 'generic' competencies or 'employable' competencies. Neither is provision made for wider roles beyond what the occupation requires. The quality of a programme would be negatively influenced when these aspects are not clearly addressed. No mention is made moreover of performance indicators or range statements when module descriptors are developed. On the whole Kennedy emphasises only a few CBE features (cf. 2.3.4, Table 2.3) such as stakeholder input, modular organisation of content and the focus on relevant needs via a

situation analysis. Another positive contribution is that he emphasises the acquiring of resources, which is one of the possible limiting factors (cf. 2.6.3) for introducing CBE successfully. Many CBE features are, however, not mentioned at all, for instance assessment, formulation of outcomes and the role of knowledge in relation to competencies.

### ***Fletcher's steps***

Fletcher (1995:67) proposes that the following British perspective on *training* programme design steps:

- Step 1: *Review standards of performance used within your organisation.*
- Step 2: *Review current practice for identification of training needs within your own organisation.*
- Step 3: *Identify national or own standards.*
- Step 4: *Match the standards, including content and structure, to workplace requirements.*
- Step 5: *Conduct a training needs analysis to confirm both need and the reasons for training needs.*
- Step 6: *Set a framework for the training programme.*
- Step 7: *Establish detailed content of the training programme.*
- Step 8: *Decide on delivery methods.*
- Step 9: *Finalise resources, equipment and administrative arrangements.*

### ***Discussion of Fletcher's steps***

These steps are obviously meant for business organisations that are focusing on *training* rather than on educational qualifications. The rationale for including this example that is not a 'teacher education' one could be questioned. The motivation is as follows: The design characteristics of CBE stay the same no matter in what context CBE is applied. One such feature is that since 'education includes also training' (cf.1.4.2) a particular 'education – training' context might require some adjustments in terms of sequence or implementation details of steps. Since Chapter Two already examined CBE features in teacher education contexts the motivation for inclusion of Fletcher's business training context example was to observe the application of CBE in other contexts in order to discover possible contributions to teacher education frameworks. The focus on a business training context explains why formal programme components such as title,

admission criteria, programme structure, assessment policy and practices, module descriptors, and other components are lacking in the Fletcher example. There is also a strong focus on competencies although the role of knowledge is recognised. It is positive that the role of stakeholders and the verifying of standards are addressed. The organising of knowledge and competencies into units and modules with performance indicators and range statements are advocated. It is also noteworthy that administrative aspects and resources for effective implementation of the training are seen as essential, but on the whole this ‘different context example’ fails to contribute significant new perspectives to a teacher education framework.

### ***Steps of McCann, Babler and Cohen***

McCann, Babler and Cohen (1998:197-207) from the Baylor College of Dentistry which is incorporated into The Texas A and M University System, identify the following implementation features for a competency-based dentistry curriculum:

*Step 1: Strategic planning.*

*Step 2: Discussion of outcomes and standards.*

*Step 3: Training of personnel in the theory and practice of CBE.*

*Step 4: Managing of change.*

*Step 5: Adapting of administrative structures.*

*Step 6: Involvement of stakeholders in programme design.*

*Step 7: Planning assessment of competencies.*

*Step 8: Continuous evaluation of curriculum effectiveness.*

### ***Discussion of the steps of McCann, et al.***

The strategic planning of step one correlates with the step of ‘situation analysis’ of other programme examples as a process to determine ‘where you are’ and ‘where you would want to be’. The management of change (proposed as step four) would be already applicable here since ways to deliver quality programmes are a typically inherent part of strategic planning. The particular educational needs would thus stem from this analysis and step two logically explores the focus for the identified occupation. The important step of adapting the administrative system to suit CBE characteristics does receive attention, although the details of such changes are left open for a contextualised interpretation. The researcher contends that the position of step six is

questionable since stakeholders are already involved in the strategic planning and the establishment of outcomes and standards.

The training of personnel regarding CBE is a sound step that might be combined with the management of change process. Since these steps are more ‘implementation’ oriented the term ‘planning’ in step seven is rather out of place – now is the time for the actual assessment of learning. As in other models above, the idea that continuous evaluation of the effectiveness of a programme is once more accepted as good practice. In general these steps emphasise some important *implementation* actions in line with such features identified under Section 2.3 and 2.4 but key design features are not mentioned at all, such as admission criteria and recognition of prior learning, having a rationale and exit outcomes and is the programme structure determined before or after the design of modules. The proposed sequence of McCann’s steps is also debateable: The ‘managing of change’ (step 4) needs to start already with the ‘strategic planning’ (step 1) and (step 5) ‘adapting administrative structures’ might be more logical at a later stage when the design is accepted. Task force members that design university programmes are often not all design experts and the more complete the guidelines at their disposal the better are the chances for thorough discussions.

### ***Foxcroft, Elkonin & Kota’s steps***

Foxcroft, Elkonin & Kota (1998:11-23) applied the following steps to design a career-oriented Bachelors degree in Psychology programme at the University of Port Elizabeth in South Africa. Their clarification of each step appears in brackets.

Step 1: *Clarify the philosophical basis of OBE and radically alter your way of thinking about higher education. Embrace the need for change.* (The following principles were formulated to rethink the philosophy of higher education: 1. outcomes as results rather than inputs guide the programme development; 2. outcomes should be appropriate for the NQA level of the programme; 3. advanced knowledge as well as how to apply it must be integrated; 4. learning outcomes should contribute to the student’s career path; 5. outcomes should also contribute to the student’s personal development and 6. values and attitudes; 7. outcomes should develop broadly applicable and work-related skills; 8. modules should, as far as

possible, not be dependent on knowledge from another module; 9. learning and assessment need to be integrated through a focus on clearly defined performance tasks).

Step 2: Upgrade your knowledge base regarding the basic principles of the National Qualification Framework, Outcomes-based Education and Training and programme design. Search for practical examples of outcomes-based programmes. (1. Information regarding NQF concepts was gathered: qualification; critical and specific outcomes; core, fundamental and elective components; credit-bearing modules e.g., one credit is equal to ten notional hours of learning; entry level requirements; recognition of prior learning; flexibility and portability and integrated assessment; 2. knowledge regarding OBE was gathered: its philosophy, features and research results; 3. knowledge about OBE programme design: the consultative process; steps involved; designing of modules that enable integrative learning).

Step 3: Develop critical and supportive (enabling) outcomes. (Outcomes were developed on the basis of the NQF outcomes and the career options available for a student with this qualification; generic outcomes were added).

Step 4: Delineate areas of learning. (The content areas were developed by surveying similar courses of other institutions; balance theory and applied modules; incorporating employable competencies; adapt content to changing national circumstances).

Step 5: Develop specific outcomes for each area of learning. (For each learning area critical outcomes were formulated and then further specific outcomes designed; a grid was used to provide an overview of progress).

Step 6: Decide on the structure of the learning programme, credit values and the mode of delivery. (Determine the overall structure, and the percentages represented by fundamental, core and elective modules; group outcomes into modules; year

levels have been dispensed with; credits for modules were identified; ensure minimum NQF credits for a degree is adhered to).

Step 7: *Decide on entry-level competencies and how prior learning will be recognised.* (Revisit traditional admission criteria; a team developed new criteria and accompanying tests; another team developed a system for recognition of prior learning).

Step 8: *Decide on multiple entry-and exit-level points.* (Consider what modules or group of modules could be enrolled for without enrolling for the whole degree; will such modules be formally certified?).

Step 9: *Consider how to accommodate work-based learning.* (Determine whether organisations would allow students to do voluntary work for them in order for students to learn some competencies in the workplace setting).

Step 10: *Decide on what to assess, how to assess it and when to assess it.* (Use a range of assessment methods; continuous assessment is applied; where formal examinations are done it would take place at the end of a module; students are informed concerning what will be assessed and how it will be assessed, thus criteria and performance indicators are known to students; students have the right to discuss the results of assessment with lecturers; performance assessment criteria are already used during the teaching-learning activities).

Step 11: *Consider issues that could arise during implementation.* (1. There are staff, time- table and financial implications of phasing out the existing programme and phasing in the new one; 2. modularisation complicates the timetable and venues; increase in practical activities require more computers, laboratories and workplace settings; 3. a textbook per module would be too costly for students therefore articles and newly developed materials are necessary; inter-departmental and inter-faculty collaboration required time and organisation; 4. a team to monitor the implementation of the programme was established and met



on a weekly basis; 5. more exit points, continuous assessment marks and credits per module required changes to the database software; 6. some degree and faculty rules needed to be revisited, such as promotion rules).

Step 12: *Prepare lecturers and students, through training workshops, for the role and mindset changes which an outcomes-based educational model will require of them.* (1. Students need to understand their more active learning role, the integrative nature of content and the possible electives to suit their career interests; 2. lecturers need to understand their newly expanded teaching role, design role and management role; 3. administrators need to understand the flexibility requirements regarding policies, procedures and documents; 4. employers, funders and parents need to understand the new type of education and ‘product’ they can expect).

Step 13: *Implement the programme and solve issues as they arise through strong leadership, constant reflection and teamwork.* (Continuous reflection on issues and the old thinking dispositions is necessary; decisive resolutions and actions need to be taken; student feedback on completion of the qualification should be obtained and interpreted to improve the system).

### ***Discussion of Foxcroft, Elkonin & Kota’s steps***

The above South African design steps are based upon a well established NQF and is of significance for Namibia as its neighbouring country in the southern African region. The details of the steps indicate how the unique characteristics of CBE (cf. 2.3, 2.4) are accommodated. Step one proposes that programme designers should rethink the philosophy of higher education in terms of a CBE philosophy and understand the characteristics of CBE. The implication is that designers might create a descriptive CBE document that could be used for discussions and management of change. No mention is made of the drafting of a time schedule for the programme development process. It could be argued that the ideas regarding outcomes in step one rather belong to step three which deals with the development of exit and learning outcomes. Step two requires designers to acquaint themselves with local national qualification framework ideas, which is a sensible suggestion. However, step two commonly forms part of a

comprehensive situation analysis which is not explicitly addressed in the steps of Foxcroft, et al. although some aspects of a situational analysis are covered by further steps. For example, step four addresses the knowledge base and society circumstances that are commonly part of a situation analysis, but no student profile is, however, developed as part of the situational analysis.

The title and level of the qualification are addressed, although not as a separate step. A rationale for introducing the programme that links the needs analysis and the formulating of outcomes, is not attended to. A positive contribution of step three is the emphasis that outcomes should match NQF standards, should incorporate generic outcomes as well as career paths related outcomes. On the negative side it could be pointed out that the involvement of external stakeholders is not highlighted in the occupational analysis or development of outcomes. The researcher maintains that even if it is assumed that external stakeholders were involved in establishing the NQF standards, designers should also revisit such standards and upgrade them with the input of a range of stakeholders. Stakeholder involvement benefits the management of change and ownership of a programme. The researcher furthermore contends that it would be necessary to start managing the change before the stage of compiling outcomes (step four) is reached.

Step four implies the development of the content related to the exit outcomes in step three. The content is developed via areas of learning as integrated disciplines. Their examples of areas of learning such as ‘introduction to the discipline and history of Psychology’, ‘evaluating human behaviour’ and ‘applied Psychology’ do not reflect a focus on roles, but rather on subjects and topics. The systematic design down of CBE requires the identification of knowledge after roles and related competence have been identified. It would also be appropriate to have a model in place for selecting roles and not merely survey course content of other institutions to determine ‘areas of learning’. It is positive that generic competencies are observed. The accreditation of the programme with further education is not mentioned.

Step five advocates the development of module descriptors. This is a valid step in itself, however the proposed step six and seven should logically precede the development of module descriptors in step five, because module descriptors are developed after the programme structures have been established and module descriptors content should consider already clarified features of students and the admission criteria. The sequence of step six and seven is therefore questionable, although

having such steps is valid. It is noteworthy that a fresh CBE perspective at traditional admission criteria is suggested that would cover the recognition of prior learning as well. The proposed steps reflect no standpoint on the issue of having developmental programmes. This is a rather important issue since such a decision could influence admission criteria and the nature of the module descriptors.

Step eight focuses on the flexible, individualisation feature of CBE, namely, multiple entry-and exit-level points. The issue is a valid one, the question could be asked however, whether this issue should be a separate step or be part of other steps. In the researcher's opinion there are both a design and an implementation dimension involved here. Firstly, the step involving the design of the structure of the programme should consider possible sensible exit points and secondly, the assessing of students and the certification step should consider multiple exit points as well. Another step encompassing the selection and registration of students could accommodate possible multiple entry points.

Step nine addresses the planning of work-based learning opportunities. The development of competence is obviously closely related to work-based learning and deserves thorough attention. In the case of teacher education the programme structure (step six above) would include 'professional practice' or 'teaching practice' to address work-based learning. The development of module descriptors (step five above) would then incorporate module descriptors for 'teaching practice' as well. This implies that the content of the work-based learning would already be incorporated into other steps and that the logistics surrounding teaching practice would have to be addressed in an implementation step concerning such logistical structures and procedures.

Step ten addresses the planning of assessment policy and practices well. As proposed by other examples, it is again suggested that evaluation instruments of performances are designed before instruction and used during instruction. Step eleven is one of three steps that focus on implementation issues. Step eleven refers to several complex implementation aspects that need attention in a systematic manner. The researcher advocates that design and implementation steps for use by designer teams should rather be accurately separated and clarified to promote the efficient and effective design and implementation of a CBE programme. In reality, changes to the administrative system as a whole would be necessary to deal with implementation issues, such as

computer software changes. Especially useful in step eleven is the reminder of the careful consideration of phasing in and phasing out aspects.

Step twelve deals with the management of change and the training of different stakeholders for their new roles. This step is valid but the researcher deems the mindset change as too late in the sequence. As indicated earlier the management of change should start much earlier. Step twelve identifies a wide range of stakeholders that should be informed / trained about the new programme before commencement of the programme. The marketing of the programme, the procurement of staff and the training of staff and students might be separate steps in order to ensure effective management of these steps. Step thirteen advocates strong management while piloting the programme and summative evaluation feedback from students. Continuous monitoring of the teaching and learning success would, however, provide timely feedback to be used as input to address issues as early as possible. A further implementation step that is lacking in these steps of Foxcroft, et al. is the ‘certification of students’. On the whole this model reflects most CBE features (cf. 2.3, 2.4) in appropriate design and implementation steps while the accurate details per step could guide designers to take care that possible CBE limitations (2.6.3) are addressed.

### ***York Technical College***

The York Technical College is a public institute (servicing York, Lancaster and Chester counties) that awards certificates, diplomas and two-year associate degrees. It enrolls more than 4500 students annually and has accepted a competency-based approach. In 2001 it published the following guidelines consisting of six chapters that are applied in their institute (York Technical College, 2001:Chapter 1-6).

*Occupational analysis:* conduct a local needs analysis to ensure relevancy; conduct an occupational analysis through various means in collaboration with stakeholders; develop (e.g. DACUM) and validate internally and externally the competency profile for an entry-level of the occupation. Note that the programme competencies should incorporate competencies in the areas of technical, academic, lifelong learning, communications, problem solving, adaptation,

citizenship, independence, work ethics and mental and physical health (York Technical College, 2001:Chapter 3).

*Instructional design:* review the existing curriculum; develop programme competencies according to the aims; develop the curriculum structure; determine courses / modules needed; pursue professional development (York Technical College, 2001: Chapter 3).

*Course development:* develop module competencies via objectives that specify observable behaviour, conditions and assessment criteria and cover all three learning domains; develop module descriptors according to a template that includes the assessment rules and practices; monitor via a matrix which competencies are incorporated in which modules; develop competency assessment checklists; develop learning packages with performance objectives; obtain instructional aids / equipment (York Technical College, 2001:Chapter 5,6).

*Implementation:* initiate and complete instruction of a pilot module; assessment of student performances is holistic and assess knowledge, skills and attitudes involved in a performance; assessment criteria should accommodate occupational criteria, also societal and institutional expectations, student characteristics and instructional factors; projects, oral examination, written tests and demonstrations contribute different weights towards the final mark; 60% is the passing grade; one retest is allowed per module (York Technical College, 2001:Chapter 2,3,6).

*Evaluation:* evaluate the pilot; analyse information gathered; initiate corrective action; annual programme reviews through available forms and guidelines (York Technical College, 2001:Chapter 3).

## **Discussion of York College steps**

Although the York context might be criticised as not being a university one, the advantage might be that this CBE model demonstrates that the Technical College context applies the same broad format as the university examples depicted above. Although the model does not provide detailed steps some important aspects are highlighted within the five broad steps. The example does not refer to managing of change because the institute has examined and accepted CBE (see their Chapter 2), but any well-managed project would have a particular time frame and this might be mentioned as a step.

The first step as an occupational analysis emphasises local relevancy, a competency profile for an entry-level and the involvement of both internal and external stakeholders. A positive feature of the occupational analysis is the broad scope of competence beyond the expected technical and knowledge areas, for example, communication, problem solving, citizenship and work ethics. This scope moves beyond a narrow competency focus and blends with general education aims. The fact that only an occupational analysis is proposed and not a comprehensive situation analysis to include student, societal and institutional features could be criticised, since these aspects impact on the nature of factors such as admission, module descriptors and instructional modalities.

With regard to the 'instructional design step' it could be argued that the proposed 'review the existing curriculum' and 'pursue professional development' as part of 'instructional design' should rather be part of the occupational analysis. Furthermore it would be sensible to extend the 'review the existing curriculum' to include the analysis of any relevant programme beyond the institutional ones. Attention to the title that accurately reflects the level of the qualification and the rationale that reflects the focus of the qualification are lacking and should be attended to before outcomes and the curriculum structure are developed. In the same vein the lack of attention to the duration and delivery mode of a programme before the structure is designed could be criticised.

With regard to the 'course development' details the following could be noted: The development of modules involves the compilation of module descriptors with outcomes formulated in terms of observable behaviour, conditions and assessment criteria and not in terms of range statements

and performance criteria. It is positive that the module descriptors template includes all relevant information regarding a module descriptor, including the theoretical and practical assessment requirements. Further positive suggestions are the use of a matrix to monitor the inclusion of competencies in modules and the design of assessment instruments before implementation starts. In addition to these positive suggestions it is proposed that learning materials are to be obtained or developed in order to implement module descriptors effectively. The suggested instructional aids / equipment would imply Internet access as a modern resource for both students and staff.

The York model is more complete regarding design aspects than it is regarding the implementation aspects. Perhaps this can be ascribed to the fact that once the institution had accepted CBE ideas the administrative policies, structures and processes were adapted accordingly. Although many implementation issues are in place, the model does not mention timetables, physical facilities, budgeting or developmental courses or marketing of programmes. What is mentioned is the idea that a module and not necessarily a whole programme should be piloted. This is a proposal worth considering. The assessment of competency demonstrations receives careful attention and includes assessment of knowledge, skills and attitudes of a performance, thus meeting CBE assessment features, cf. 2.3.4.6, 2.4. The process as well as the product of a performance is thus observed. Especially commendable is the attention paid to the assessment of attitudes and to the accuracy of verbs for all learning domains. The compilation of the final mark, the high pass mark of 60 % and the possibility of a retest per module is also in line with CBE features of quality assurance and learner support.

In connection with the 'evaluation' step of the York model the following positive aspects could be noted: The experiences from the pilot are analysed and used to initiate improvements of the programme. An annual programme review is done and various forms are available for lecturing staff to evaluate different aspects of the programme. Some of these forms are presented as guidelines that could be used to evaluate the setting and grading of different type of written test questions (see York Technical College, 2001:Chapter 3). On the negative side it could be noted that the attention to the certification of students (as related to CBE perspectives, cf. 2.6.2) is lacking. In general, this example makes valuable contributions to the details of a teacher education design and implementation framework.

### *Columbia's SENA steps*

The Colombian national curriculum manual (SENA, 2002:11) proposes the following design and development steps for occupational vocational programmes:

- Step 1: *Interpret the points of reference for programme design such as units, elements of competency and the level of qualification.*
- Step 2: *Define the exit occupational profile of the worker-student.*
- Step 3: *Define the programme structure, incorporating basic modules, mainstreaming and specific training modules.*
- Step 4: *Define an entrance profile.*
- Step 5: *Verify the programme structure technically and methodologically.*
- Step 6: *Select modules to be designed within the programme structure.*
- Step 7: *Draw up a development diagram that allows observation of the coherence between the working process and the training process.*
- Step 8: *Define coherent and meaningful learning units.*
- Step 9: *Verify the technical and methodological dimension of learning units.*
- Step 10: *Build up the knowledge, attitudes and values chart for each unit.*
- Step 11: *Settle learning results for each learning unit.*
- Step 12: *Establish training procedures for each learning unit.*
- Step 13: *Plan teaching-learning-assessment activities.*
- Step 14: *Verify the process technically and methodologically.*
- Step 15: *Define contents for teaching-learning-assessing activities.*
- Step 16: *Settle assessment criteria.*
- Step 17: *Define learning evidences.*
- Step 18: *Select assessment techniques and instruments.*
- Step 19: *Suggest methodological strategies.*



Step 20: *Define learning environments.*

Step 21: *Select and prescribe teaching materials and educational resources.*

Step 22: *Define training times.*

Step 23: *Define the trainer's profile.*

Step 24: *Verify each module technically and methodologically.*

Step 25: *Present the design products to the approval committee.*

Step 26: *Approve products.*

Step 27: *Revision and updating.*

### ***Discussion of the Columbian steps***

All of the above preceding steps capture design and implementation perspectives from a range of institutions in different countries in a chronological order from earlier to latest frameworks. The Columbian steps do not reflect a new introduction of CBE, they rather focus on *designing* a programme and there is very little about *implementation* steps. Step one and two are basically both part of a situational analysis, however in this case the focus is mainly on two factors of such a situation analysis. The 'level of the programme' mentioned in step one belongs before, or as part of, the proposed step three where the programme structure is defined. It is notable that the occupational competency profile (step two) is inclusive of 'worker' competence and 'student' (graduate) competence. This might suggest a blending of general and occupational aims, thus implying some categories of an underpinning competence model. This is confirmed in step three where 'basic' modules, mainstream modules and electives are recommenced. Factors such as a rationale, aims of a programme, admission requirements and programme duration and delivery mode that impact on the further design, should logically be dealt with in now lacking steps between the proposed step two and three. This means the proposed step four is out of logical sequence as it belongs before step three.

The proposed step three includes three categories of modules of a programme structure and thus advocates a positive broad focus. Step five need not be a separate step since a broad range of internal and external stakeholders are commonly involved in step three and a later verification

(step 14 and 24) of a more complete programme is suggested. Step six is a repeat of the selection of modules that in reality already happens in step three. Similarly, step seven repeats what should have been done in earlier steps: a diagram that allows the monitoring of the inclusion of competencies of the occupational profile in the modules. Step eight involves the development of modules via identification of their units. This step is equal to the development of a module descriptor for a module that includes the setting of learning outcomes (step 11) for knowledge, attitudes and competencies (step 10) and the specifying of preferable type and level of assessment (step 13) via verbs. The execution of step eight thus incorporates step 10, 11 and 13 and a merely theoretical repeat of these steps is not deemed necessary by the researcher. In fact, the proposed step nine, 12 and 13 could also be seen as included in the development of a module descriptor and are therefore superfluous as separated steps.

On the positive side it could be pointed out that these steps between 9 and 13 do emphasise that module descriptors provide some methodological suggestions (step 9, 12 and 20) that might include indication of teaching-learning in a workplace (practical learning) or institutional (theoretical learning) setting. Such an indication of the learning setting would also set the tone for the assessment setting. The specification of such settings could contribute significantly to the quality of a programme.

Step 14 is unclear about what process is to be verified and as indicated earlier, if relevant stakeholders are involved in the design process such frequent verifications of small components might not produce worthwhile gains. Step 15 suggests content selection activities that are already attended to when a module descriptor is developed. Step 16 addresses the planning of assessment regulations and step 18 could in reality be seen as part of step 16. Step 17 is out of place in this model's sequence as 'learning evidence' is indicated by unit / module descriptors outcomes' verbs in step 11. Step 18 likewise advocates (as in previously mentioned frameworks), the setting of written and performance tests.

Steps 20 to 23 attend positively to the implementation aspects of selecting teaching-learning resources, finalising a timetable and appraising the need for staff. The Columbian programme is finalised at this stage and it makes sense to verify especially the content, instructional methodology and assessment methods. Steps 25 and 26 belong together, as they emphasise the

internal approval of the complete programme and related documents. No suggestion is made regarding a pilot where many aspects are monitored. The last proposed step is in line with other examples in terms of continuous refining or evaluation.

In general the Columbian steps are not a successful integration of theoretical and practical programme elements although they concur with the common CBE characteristics such as having outcomes that specify competencies, organising of content into modules, a strong focus on teaching-learning activities, the role of resources and broad-based assessment (cf. 2.3.4 and 2.4). Some steps are lacking, such as selection of staff, enrolment of students, training of staff and students and the area of certification. Some design steps belong together as one step and the sequence of some steps is at times not logical.

### *Westraad's steps*

The South African author Westraad (2003:9-23) proposes the following steps, with her clarifications in brackets, for designing programmes in the private enterprise sector:

Step 1: *Select a relevant qualification.* (Determine the knowledge, skills and values that students require and already possess; select or design a qualification that would develop the requirements).

Step 2: *Analyse the qualification.* (Be familiar with outcomes and assessment criteria as well as with core, fundamental and elective components; ensure that the national required level and weight for core, fundamental and elective components are met).

Step 3: *Ensure that the South African Qualification Authority's critical cross-field outcomes are incorporated and developed.* (Incorporate existing cross-field outcomes and develop them where necessary).

Step 4: *Develop a profile of the learners.* (Ensure the programme considers characteristics of learners such as language ability, prior knowledge and work experiences, employed adults' available time, learning styles).

Step 5: *Select a delivery mode that accommodates both the theoretical and work-based learning components.* (Decide what the balance will be between performance-based / practical and knowledge-based components; consider time and logistical implications for work-based learning).

Step 6: *Design learning and assessment opportunities.* (Focus on exit outcomes and their assessment criteria; consider the number of students, their characteristics and teaching-learning resources available; consider the need for staff; ensure that all students are supported to master the programme and that opportunities exist for practicing knowledge, skills and values in increasingly complex contexts).

Step 7: *Pilot and refine.* (Pilot the programme and continually revise and refine it).

### ***Discussion of Westraad's steps***

This model (the second South African one) does not address the issue that a faculty should consider the management of change. A situational analysis is not suggested as an early step before a designer team can decide on the type of programme needed. Step four of this model dealing with learners' profiles should logically be part of such an analysis as this type of information impacts on following components of a programme. In fact, step one to four above commonly forms part of a 'situational analysis'. The first four steps are therefore rather too crude to guide a teacher education designer team clearly and systematically.

A rationale for a programme, based on the situation analysis facts, is necessary before exit outcomes are formulated and such a rationale is lacking in this model. Aspects of a programme such as the title and level and aims also need to be established before a structure of a programme is designed down from them. A positive element that is mentioned above about the structure of a programme is the suggestion that designers should incorporate the national requirements, for example in the South African case, the attention to core, fundamental and elective components as well as cross-field outcomes. Admission requirements are not addressed but the delivery mode that should incorporate work-based learning (step 5) is a positive suggestion.

Step six of Westraad's steps involves many different aspects that rather need to be separated and specified in a proper sequence. For example, the focus on 'learning opportunities' implies the development of module descriptors and this complex process deserves to be managed as a separate step. It would further make sense to have module descriptors in place first in order to determine accurately what particular outcomes are required in terms of assessment. Step six is lacking detail about the assessment regulations and the involvement of external stakeholders in the compilation and verification of the programme. The planning for staff, student support and resources are addressed.

Step seven advocates the pilot of a programme which is acceptable, however several steps prior to the pilot as mentioned by previous examples, are not mentioned in this example, such as the procurement of staff and the training of students and staff in CBE ideas. The proposal to 'refine' the programme is vague and would not be very helpful in reality with regard to evaluation of learning results, programme content or lecturing performances. The certification of students is not addressed at all. By and large this model reinforces some current steps but for a university CBE programme design team following this model, many questions regarding missing steps, the sequence of steps and what the steps entail exactly will remain unanswered.

### *Lyon's phases*

Barbara Lyon (2003:5-11) of the Tarleton State University in Texas advocates the following undergraduate and graduate programme design phases:

*Analysis phase:* ensure broad participation from internal and external stakeholders; determine internal and external educational trends and influences.

*Design phase:* determine programme outcomes; develop the curriculum structure and assessment plan; link programme outcomes to module descriptors.

*Development phase:* select course texts; develop course module descriptors; develop learning activities; develop assessment tools; develop feedback mechanisms.

### *Implementation*

*phase:* focus on instructional methods and learning activities; perform formative student assessment.

Evaluation phase: semesterly: evaluate course outcomes; exercise summative student assessment; students evaluate lecturing staff; analyse enrolment and assessment data;

annual / bi-annual: programme outcomes; enrolment data; final assessment results; evaluation of assessment policy and procedures; external review; module descriptors review and revisions; curriculum structure and sequence review.

every three to five years: monitor the institutional effectiveness; evaluate the mission; goals; achievements and programme quality.

(Lyon, 2003:5-11)

### **Discussion of Lyon's phases**

The use of 'phases' instead of steps implies the theoretical clustering of factors – and that might leave room for uncertainty in programme designers' minds about the precise practical sequence or features of the steps within a phase. Whether a programme framework would be more understandable and effective if Lyon's phases are integrated with steps could be considered. It can be argued that programme design and evaluation is a specialised field and therefore design teams would need clear guidance via precise steps that organise and integrate the myriad of theoretical and practical aspects.

Lyon's 'analysis phase' emphasises two important CBE features (cf. Section 2.5, Table 2.3), such as all stakeholder participation and taking notice of national and international educational trends. Such an analysis should, however, be broader than these factors, for example, it should include an analysis of the targeted learners' profile and the occupational needs of society. The proposed design phase includes crucial steps but the assumption is made that the type, level, duration and rationale for a particular qualification are already established when outcomes are

formulated. The question could be posed whether the development of module descriptors would promote a clear understanding of the content whereupon the assessment regulations could be determined. In Lyon's model the assessment is addressed before the development of module descriptors.

The 'development phase' covers the fundamental steps of producing module descriptors, assessment instruments and feedback mechanisms. The researcher would suggest a change in the order with regard to the selection of textbooks and other learning materials. In reality such a selection of materials would logically follow on completion of a module descriptor. The proposed development phase does not address administrative changes that might be necessary, or the training of staff and students in CBE perspectives, or the appraisal of facilities, timetables, costs and staff needed. The question could also be asked if this phase should also include planning the logistics and module descriptors of the work-based learning / teaching practice.

The implementation phase rightly focuses on the teaching-learning activities and the assessment of learning. If a CBE programme is implemented for the first time it is highly advisable to train staff and students regarding CBE right from the start of the implementation. In fact such a step could be valid even if CBE programmes are already established, because such training sessions could be used to discuss successes and limitations experienced with CBE. New developments elsewhere regarding CBE could also be pointed out and changes could be proposed.

This phase proposes a notable time-related organisation of evaluation activities. The semester evaluation category includes valid types of evaluation, however the summative assessment of students should rather be grouped with the formative assessment under the 'implementation phase'. That would clearly distinguish between assessment and evaluation activities. The annual / bi-annual category recommends a wide range of important evaluation types that could be undertaken. The bi-annual option or even an evaluation every third year of module descriptors and programme structure might be a more feasible option than the annual one. The model makes a valuable contribution towards a teacher education design and implementation framework by acknowledging that evaluation of programmes should extend to the broader institutional auditing since the broader institutional context should be synchronised with the function of teaching-learning. The institutional audit should include factors impacting on the management of the

teaching-learning environment. Alumni and external stakeholders should participate in the evaluation of the programme quality.

All the above ten examples capture design and implementation perspectives from a range of institutions in different countries in a chronological order from earlier to latest frameworks. The frameworks of Blank (1982) and Rothwell and Kazanas (1992) are examples from America. Kennedy (1995) represents an example from Canada while Fletcher (1995) and York Technical College (2001) provides frameworks from Britain. McCann, et al. (1998) and Lyon (2003) provide programme frameworks from Texas, while Westraad (2003) and Foxcroft, et al. (1998) present examples from South Africa. In addition, there is an example from Columbia (2002). The scope and time frames represented by the examples seem adequate. Furthermore the scope includes three programme frameworks that focus on vocational occupational programmes, two examples focusing on private enterprise programmes as well as five university programme frameworks. If it is acceptable that CBE design frameworks are applicable to any vocational or professional programme then these ten examples would provide adequate information to compile a valid design and implementation framework for teacher preparation. It might, however, be argued that at least one teacher education framework would have been desirable in spite of the fact that the five university framework examples address teacher education frameworks. The final proof of the appropriateness of these ten framework examples lies, however, in the extent to which the synthesised framework meets the characteristics of CBE as spelled out earlier in Chapter Two. This evaluation is undertaken after the synthesised framework as presented in Table 3.1 in the next section. Chapter Six undertakes an analysis of a UNAM teacher education programme against this synthesised framework and notes its appropriateness for the local context.

### **3.2 SYNTHESISED CBE DESIGN AND IMPLEMENTATION FRAMEWORKS**

A synthesis of the before mentioned design and implementation framework examples is necessary in order to establish a sound theoretical and practical framework against which the ADEd framework could be analysed. The following Table 3.1 provides this *synthesised design and implementation framework* steps.



Table 3.1: **Synthesis framework of CBE programme design and implementation**

<b>CBE DESIGN FRAMEWORK</b>
<p><b>Step 1: Managing the change to a new educational philosophy</b></p> <ul style="list-style-type: none"> <li>• The Faculty selects a task force and programme co-ordinator</li> <li>• Task force examines the philosophy and characteristics of CBE</li> <li>• Analyse examples of CBE programmes and research findings</li> <li>• Obtain a CBE programme design and implementation framework</li> <li>• Meetings with internal stakeholders about CBE: top and faculty management, lecturers, students, administrative staff</li> <li>• Address fears and conflicting perspectives such as goals of higher education, learning theories and organisation of knowledge on a continuous basis</li> <li>• Create CBE guideline documents regarding aspects such as student support, setting performance tests, module descriptor templates, assessment and assessment records</li> </ul> <p>Sources: Kennedy, 1993:7; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin &amp; Kota, 1998:11-23.</p>
<p><b>Step 2: Drafting a programme development timetable and action plan</b></p> <ul style="list-style-type: none"> <li>• Task force work backwards from the intended implementation date and draft a timetable to meet deadlines</li> <li>• Compile an action plan based on the design and implementation steps and timetable</li> </ul> <p>Sources: Kennedy, 1993:7; Foxcroft, Elkonin &amp; Kota, 1998:11-23.</p>
<p><b>Step 3: Conducting a situational analysis</b></p> <ul style="list-style-type: none"> <li>• Consider various data gathering devices</li> <li>• List internal and external stakeholders to be involved</li> <li>• Analyse all factors that influence the programme: e.g., society's work environment needs, learner characteristics, the role, nature and organisation of knowledge, goals of and tendencies in higher education, trends in educational theories including CBE theories, institutional factors</li> <li>• A strategic planning for the faculty would be helpful regarding the institutional analysis</li> <li>• Observe NQA regulations and available occupational standards</li> <li>• Observe national higher education planning and directives</li> <li>• Conduct an occupational analysis with stakeholder input, e.g., DACUM workshops, create a competency profile (indicating priorities) for entry-level professionals</li> </ul>

- Reflect on the model underpinning occupational competence roles and whether it blends higher education and occupational education goals

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; Fletcher, 1995:67; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11.

#### **Step 4: Finalising the title, level, duration and code of the qualification**

- Determine what type of qualification would address the identified needs
- Observe NQA regulations regarding qualifications

Sources: Foxcroft, Elkonin & Kota, 1998:11-23; SENA, 2002:11.

#### **Step 5: Formulating the rationale**

- The rationale addresses the discovered needs and correlates therefore with the exit outcomes
- Address other than standard occupational competence roles too

Source: Foxcroft, Elkonin & Kota, 1998:11-23.

#### **Step 6: Formulating the exit outcomes of the programme**

- Observe a competence model: the scope of outcomes goes beyond basic workplace needs, e.g. personal and interpersonal development, values and attitudes, citizenship, career path, further education, generic employability skills,
- Observe the NQA minimum requirements
- Exit outcomes define the roles and specify mainly competence and competencies
- The formulation of exit outcomes incorporate verbs expressing observable behaviour but not conditions and assessment criteria

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; Fletcher, 1995:67; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11.

#### **Step 7: Determining the admission requirements**

- A team revisit traditional admission criteria

- Specify academic and occupational pre-requisites while considering the learner characteristics
- Bear in mind equal access policies
- Consider multiple entry points
- A team develops the prior learning recognition system

Source: Foxcroft, Elkonin & Kota, 1998:11-23.

### **Step 8: Selecting the delivery mode**

- Decide whether the programme will be offered on a full time, a distance or an online basis or a combination of these modes

Sources: Fletcher, 1995:67; Foxcroft, Elkonin & Kota, 1998:11-23; Westraad, 2003:9-23.

### **Step 9: Compiling module descriptors**

- Design a module descriptor template which includes aspects such as pre-requisites, resources needed, instructional methods, workplace or institutional learning setting, assessment regulations that indicate applicable theoretical or practical assessment
- Module descriptors include comprehensive , coherent knowledge and attitudes
- Module descriptors include generic competencies
- Verbs are carefully selected as they reflect learning domains and experiences
- Group performance outcomes and identify units within modules
- Use a matrix to control the incorporation of competencies in various modules
- Sequence outcomes according to logical learning perspectives
- Module descriptors for workplace learning (teaching practice) are attended to

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; Fletcher, 1995:67; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Lyon, 2003:5-11.

### **Step 10: Establishing the broad programme structure**

- Design the programme structure in terms of scope, sequence and weight of modules
- Indicate core and elective modules to suit career interests / specialisation
- Indicate work-based learning modules (teaching practice)
- Ensure the programme meets the required NQA hours and other directives
- Consider multiple exit points
- Consider phasing in of the new programme and phasing out options

Sources: Kennedy, 1993:7; Fletcher, 1995:67; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11.

### **Step 11: Developing the assessment regulations and instruments**

- Determine the passing grade for theoretical and practical tests
- Understand that passing of demonstrations of competence require passing grades on a criterion-referenced basis and not on an aggregate score
- Describe the re-testing policy per module
- Clarify the role of non-grading tests and feedback
- Specify the weight of different assessment methods towards the final mark
- Specify the weight of continuous and summative assessment towards the final mark
- Revisit promotion rules
- Develop performance test instruments for both processes and products
- Develop written tests
- Module descriptors, course outlines and performance checklists guide students regarding assessments

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11.

### **Step 12: Obtaining programme approval from key stakeholders**

- External stakeholders verify the details of the programme
- Faculty considers external stakeholders comments and finalise the details of the programme
- Formal NQA recognition of the qualification is obtained
- Senate approval is obtained

Sources: Kennedy, 1993:7; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11.

## **CBE IMPLEMENTATION FRAMEWORK**

### **Step 13: Leading and managing administrative changes**

- Motivate the need for changes to workload policy
- Indicate the need for changes to assessment records and consequent database software
- Align the recognition and reward system with effective CBE practices
- Revisit the academic and financial autonomy of a faculty
- Negotiate the type of required input from other faculties regarding your particular programme
- Consider a school-based mentoring system
- Create plans for inter-faculty collaboration

Sources: Blank, 1982:26; Fletcher, 1995:67; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23.

### **Step 14: Establishing a CBE oriented instructional management system**

- Discuss possible restructuring of departments in the faculty
- Establish documents with guidelines for team teaching, student support, setting of papers, giving feedback and CBE teaching-learning
- Create or restructure committees to promote departmental collaboration
- Assign new duties to staff to promote instructional management
- Indicate what type of documents must be available on file per department
- Revisit the nature and tasks of a unit to organise the logistics of work-based learning / teaching practice

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; Foxcroft, Elkonin & Kota, 1998:11-23.

### **Step 15: Designing a timetable**

- The programme timetable reflects the allocated weight per module
- Provision is made for core and electives
- Provision is made for work-based learning (teaching practice)
- Synchronise the programme timetable with the broader institutional timetable if students are involved in both types of timetables

Sources: Foxcroft, Elkonin & Kota, 1998:11-23; SENA, 2002:11; Westraad, 2003:9-23.

### **Step 16: Appraising the required physical facilities**

- Are there adequate lecturing and tutoring venues?
- Is there a need for a computer, simulation or other type of laboratory?
- Are enough offices available for possible additional staff?

Sources: Foxcroft, Elkonin & Kota, 1998:11-23; SENA, 2002:11.

**Step 17: Appraising the need for staff**

- Match the expertise and interests of available faculty staff with the programme needs
- Determine whether the workload of individual lecturing staff members could accommodate the new programme needs
- Appraise the need for additional administrative staff

Sources: SENA, 2002:11.

**Step 18: Identifying required teaching-learning resources**

- Consult module descriptors and compile a list of teaching-learning resources required
- Identify textbooks and other learning resources
- Indicate transport needs for lecturing staff during teaching practice
- Consider the effectiveness of the current Internet bandwidth of the university and the development of an online system

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11.

**Step 19: Drawing up a budget**

- Analyse the financial implications per step for students and the institution
- Consider phasing in and phasing out costs

Source: Foxcroft, Elkonin & Kota, 1998:11-23.

**Step 20: Advertising to procure students and staff**

- Employers, parents and donors need to understand the new type of education and the expected quality of the graduate
- Advertise externally for staff according to the determined needs
- Market the new qualification through various means
- Adapt yearbook to reflect programme and policy changes

Source: Foxcroft, Elkonin & Kota, 1998:11-23.

**Step 21: Selecting staff and acquiring teaching-learning resources**

- Interview lecturing and administrative staff
- Acquire the previously identified resources (see step 19)
- Develop learning materials
- Reproduce module descriptors and learning materials
- Develop some performance and written tests

Sources: Blank, 1982:26; Fletcher, 1995:67; Westraad, 2003:9-23.

**Step 22: Training staff in CBE theory and practices**

- Lecturing staff need to understand the CBE philosophy and characteristics, their expanded facilitation role as well as their accountable instructional management role, the assessment system, etc.
- Administrative staff need to understand the new policies, procedures and documents

Sources: McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23.

**Step 23: Piloting the programme**

- Consider multiple registration opportunities
- Register students and apply the developed RPL system (step 7)
- Clarify the programme features and expected student roles of students
- The programme development task force and project co-ordinator monitor the implementation
- Monitor availability and effectiveness of learning materials
- Monitor student support plans
- Monitor team teaching and workload of staff
- Monitor level of students taking responsibility for own learning
- Use performance assessment instruments during teaching
- Reflect on organisation and effectiveness of workplace learning assessment
- Assess student learning progress
- Faculty management and staff apply the new policies and practices decisively
- Assess instructional management effectiveness
- Student assessment of lecturer performances via questionnaires that reflect CBE oriented perspectives

Sources: Blank, 1982:26; Kennedy, 1993:7; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; Westraad, 2003:9-23; Lyon, 2003:5-11.

**Step 24: Continuous evaluation of the programme quality and institutional environment**

- *Semesterly*: staff evaluate scope and depth of course outcomes; staff evaluate assessment instruments; students evaluate lecturing staff; faculty management analyses enrolment and assessment data;
- *Annual / bi-annual*: programme outcomes; enrolment data; final assessment results; evaluation of assessment policy and procedures; external review of programme structure and module descriptors
- *Every three to five years*: monitor the institutional effectiveness in terms of the mission; goals; programme quality; administrative policy and structures' effectiveness; staff and student support; growth in student numbers.
- Use feedback to refine aspects of the programme
- Inform stakeholders of successes and changes to a programme

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11.

The above synthesis framework reflects the steps and activities per step from many framework examples. In addition, the synthesis framework represents experiences and recommendations of several institutions in different countries. The steps have been labelled and sequenced to capture CBE perspectives (cf. 2.3, 2.4, 2.5 2.6) in a logical fashion. Although a degree of flexibility is possible in attending to the components indicated by the steps, certain steps need to be preceded by particular steps. For example, it makes sense that a situational analysis precedes the rationale and exit outcomes focus on what the programme should achieve. The first step 'managing of change' is a typical CBE related programme design step, proposed by designers who experienced the turmoil of introducing CBE perspectives. Ongoing communication and documents are recommended by this step to ensure that dealing with change is not neglected and thus becomes a limiting factor (cf. 2.6.3) for introducing CBE. Discussion of CBE terminology, National



qualification frameworks and academic freedom would clarify the appropriateness or not (cf. 2.6) of CBE.

The systematic development of a CBE programme requires a lot of time and step two suggests having a project time schedule to manage the programme development well. Step two could probably just as well be the first step. Step three of ‘conducting a situation analysis’ needs to be this early in the framework as all factors influencing the ‘design down’ of the programme such as NQF regulations, features of learners and an occupational analysis are then addressed. The details of step three indicate – as it should according to Section 2.4, Table 2.2 - that employee competence is blended with general education of a graduate. Once the education needs are established it is logical to determine the type and level of a qualification that would address these needs as suggested by step four. To have a rationale (step five in framework) which states the main goals of a programme is a step applied by most programme designs. The unique features of CBE are, however, becoming clear through the *nature* of the rationale. Typically a CBE rationale covers goals related to ‘general’ and ‘occupational’ education (cf. Section 2.3.4.2, 2.5 Table 2.3). Having a rationale is also in line with having ‘exit outcomes’ as proposed in step six. It is positive that the ‘formulating of the exit outcomes’ warn designers against the pitfall of a narrow CBE focus, thus addressing one of the possible limitations (cf. 2.6.3) of CBE. The uniqueness of CBE ‘admission requirements’ is reflected by the effort to address broader access (see philosophical perspectives, 2.3.4.1) through bridging and RPL while striving for quality. The proposed steps seven and eight dealing with admission and delivery mode respectively fit logically together. However, one could argue that they could fit into the framework after step ten which deals with ‘establishing of the programme structure’.

An analysis of the ten programme frameworks indicates that CBE designers differ about the sequence position of ‘compiling module descriptors’. The researcher maintains that because CBE designs depart from identified needs / standards the compilation of module descriptors needs to be done before the programme structure (step ten) which is based on such standards. It is furthermore positive that the module descriptors (step nine) address a possible limitation of ‘incoherent knowledge’ and that ‘workplace learning’ (Teaching Practice) module descriptors which aim to develop ‘competence’ (as the unique CBE feature), are also compiled. The details of step eleven about assessment meet the CBE features of learner support through possible re-

testing, continuous assessment and feedback while also addressing the complexity of ‘competence’ assessment (cf. Section 2.3.4.6). Also typical of CBE is the involvement of relevant stakeholders (step twelve) from the start to the evaluation of programmes. The details of step twelve suggest that NQA approval of the programme is obtained *before* senate approval of the programme and this raises the question of academic freedom again. Senate could approve programmes without obtaining NQA approval first; however, it would be wise if Senate at least *monitored* that the programme would meet the *minimum* NQA requirements.

The synthesised framework of Table 3.1 separates the ‘design’ and ‘implementation’ steps although the numbering of the steps indicates that they form a holistic framework for introducing CBE. The implementation oriented steps emphasise that a quality programme should be backed up by the necessary management policies and structures on both institutional and faculty levels. Step thirteen attends to these administrative changes (cf. Section 2.5) such as workload policy, reward system and assessment records. The ‘managing of administrative changes’ is the one step where the faculty management needs to *request* relevant *institutional* changes. This step is, therefore, very important to the successful implementation of CBE. Failure to bring about the necessary institutional changes could limit the quality of a teacher education programme. The researcher contends that some important issues such as a policy of ‘quality assurance’ and ‘student support services’ were not addressed by the ten programme frameworks. Section 2.3 highlights CBE features such as ‘expanded learning opportunities’ and ‘supportive learning environments’ and step thirteen needs to reflect that. The *institutional* administrative changes logically precede the next step (step fourteen) that addresses ‘instructional management’ on a faculty level. Step fourteen proposes, and rightly so, that the ‘detailed documents’ (cf. Section 2.3.4.7) of CBE serve the instructional management in a faculty.

Step fifteen addresses the design of a timetable and proposes that the ‘work-based learning’ as important feature of CBE (cf. Section 2.3.4.5 and 2.4) is indicated and aligned with the institutional timetable. Step sixteen makes provision for the necessary physical facilities required by the learner-centred approach (cf. Section 2.3.4.1, 2.3.4.5, 2.5) of CBE. Steps seventeen and twenty one make provision for more academic and administrative staff due to higher workloads (cf. 2.6.3) required by a CBE system. Steps eighteen and twenty one ensure that designers identify and acquire the necessary teaching-learning resources that would promote self-directed

learning (cf. Section 2.5) of a CBE system. Step nineteen suggests that a budget be compiled by using the framework steps which would indicate the costs involved in the start-up (cf. Section 2.6.3) of CBE. Step nineteen could probably be moved till after step twenty two. Step twenty two proposes the training of staff in CBE theory and practices (cf. Section 2.4) since the successful implementation of CBE relies on this training. The piloting of the programme (step twenty three) allows for monitoring whether the implementation of CBE meets the designed features such as the support of students, the lecturers acting as facilitators, whether the assessment of competence is accurate and the management of instruction is executed effectively. The final step (step twenty four) requires in typical ‘systems’ fashion applied by CBE that all relevant issues are evaluated and the results used to improve the system.

The synthesis framework above proposes many ‘separated steps’ rather than ‘phases’ as some of the analysed examples applied. The researcher contends that separated steps leave less room for uncertainty in programme designers’ minds about the precise practical sequence or features of the steps within a phase than do the clustering of factors into phases. The clear activities per step require a systematic focus and documentation that assists accountable management. For instance, specified competencies and knowledge in module descriptors are helpful to determine the need for staff. Module descriptors’ format reflects what teaching-learning resources would be required which allows for more accurate budgeting, time management and work allocation to administrative and lecturing staff.

Although the above framework incorporates important theoretical and practical steps and activities it cannot claim completeness. The next section introduces *additional theoretical* perspectives in most steps as well as two additional steps. These additional perspectives are then integrated with those reflected in Table 3.1 and the expanded framework is displayed as Table 3.9.

### **3.3 ADDITIONAL PERSPECTIVES TO THE SYNTHESISED FRAMEWORKS**

#### **3.3.1 Additional design perspectives to Table 3.1**

##### **3.3.1.1 Managing change towards a new educational philosophy**

According to Doll (1996:314) leaders who initiate programme changes could manage the change well through the following actions. Firstly, there are actions to support *individuals* to change: (a) Work with people, not over them. (b) Show that you too desire to improve. (c) Ensure that people involved know you and each other. (d) Work with both individuals and groups. (e) Indicate how existing problems are solved through the proposed changes. (f) Keep channels of communication open. (g) Use your status with great care. (h) Be sensible and modest in your expectations. It is especially under Doll's point (e) that the characteristics of CBE could be discussed that would include epistemological and learning perspectives. 'Scientism' and 'constructivist learning' might thus be addressed too.

Secondly, there are actions to support *institutional* (Doll, 1996:319-20) change: (a) Existing goals, hierarchies, procedures and roles are important issues that inhibit change. (b) Cooperative planning by equals is a more successful strategy than force or coercion by superiors. (c) Change requires that the driving and restraining forces be modified, for example, reduce restraining forces or strengthen driving forces. (d) High-quality leadership is necessary that calls upon staff to observe the new phenomenon in a professional manner before taking a decision. (e) Open and continuous communication about feelings (fears, values, beliefs) and ideas (advantages, limitations). (f) Supportive and opposing views should not be polarised as good or bad. (g) Change must be carefully maintained, once achieved. To the researcher it is under (a) above that institutions might reflect on the *purposes and role of the African University* and on the *purposes of teacher education*.

According to Doll (1996:307) the following issues prevent the acceptance of change: (a) The (in) effectiveness of the current programme is not clarified. (b) Not broad enough and valid data is utilised. (c) Individual differences of people and institutions are completely ignored. (d) Key stakeholders, especially those to implement it, are not involved in the planning of a programme. (e) The planning of a programme does not extend to the proper managing of the individual and organisational change involved. (f) It is not clear how the new programme is of higher quality than the existing one.

Another prevalent perspective that requires careful management of change when switching to CBE, is the traditional perspective about the goals of universities with programme formats

structured around disciplines. According to Luckett (2001:55) this ‘scientism’ or discipline-based knowledge perspective involves the application of a scientific epistemology and methods to all human and natural problems. It is based on the belief that inquiry into the character of nature is achieved via empirical observation and rational inference and that there is a ‘true’ physical universe which is orderly and knowable via human reason. Knowledge then tends to be understood as “*objective, free-standing, decontextualised, prepositional and hierarchically classified and structured by the disciplines*” (Luckett, 2001:55). This form of science is reductionist as it believes that the whole can be understood by analysing its parts and this view of knowledge leads to a theory of learning where *learning is* viewed as a process of accumulation and internalisation of knowledge which is stored and retrieved at a later date; where learning is understood to happen *inside the minds* of individuals and most significant, learning is assumed to take place within the *formal education* system (Luckett, 2001:55).

Luckett continues that in contrast to the above scientism perspective, the post-modern view subverts the traditional justifications for the university and signals an end to academic knowledge as we know it. A post-modernist view furthermore has changed the notion of authoritative knowledge as it suggests that all knowledge claims are *local, partial and contextually specific*. Postmodernist views thus allow only for temporary representations of meaning, which are inescapably linked to power. A *constructivist* epistemology and theory of learning suggest that knowledge could be organised in many different ways depending on aims or criteria employed and learning is a search for *meaning* rather than *right* answers or the *true nature* of things (Adobe go live, s.a.:1). According to Abdal-Haqq (1998:1) a *constructivist* epistemology and theory of learning involves individuals constructing their own understanding through the interaction of beliefs, ideas, events and activities such as cooperative learning and problem solving.

### **3.3.1.2 Conducting a situational analysis**

The content of the following subheadings clarifies the necessity of a situational analysis at this point in the design, since many variables are analysed at this point that impact on the designing down of the programme. Firstly, however, the distinction between ‘situational analysis’ and ‘needs analysis’ requires clarification.

*Situational and needs analysis*

The literature regarding programme design reflects that the early Tyler (1962) and Wheeler curriculum models (1967) did not propose a *situation analysis* component, however they *implied* that the aims and content of a programme would be determined by the needs of the society and learners. Since the Nicholls and Nicholls model of 1972 the *situational analysis* component has been included in the programme design models (Mostert, 1985:18). A *situational analysis* can be distinguished from a *needs analysis*. A needs analysis focuses on the programmatic or occupational training needs as well as the gap between current and desirable standards (Mostert, 1985:25-29).

A ‘situational analysis’ is a broader concept than ‘needs analysis’ and encompasses a comprehensive analysis of, for instance, the current teacher-training environment versus the future required outputs. It is therefore a systematic analysis of the *internal and external environment* and not a quick-fix of a situational crisis. One ideal strategy to integrate philosophical discussion with analysis of local needs is to embark upon strategic planning. Dubois (1993:23) and McCann, et al. (1998:201) support strategic planning as part of the situational analysis, as this planning would differentiate between pseudo-needs and real needs when many stakeholders are involved. Typical factors of a situational analysis are the learner, the learning content, society and the teaching-learning environment (Mostert, 1985:30-33). The process of situational analysis involves, according to Carl (1995:97), the collecting and interpreting of information in regard to *all variables* which may influence the design of a programme. Such key variables are identified below.

#### *Characteristics of students*

According to Carl (1995:98) the common characteristics of students taken into consideration are age, intellect, language skills, values, learning styles, subject knowledge levels, self-image, motivation, home circumstances and thinking skills. The Rothwell and Kazanas (1992:74) steps include ‘geographical location’ of learners as well and Westraad (2003:10) mentions ‘employed students’ available time. Rothwell and Kazanas (1992:46) suggest gathering of information about the target audience via sampling and identify several data collection methods. The point is that any learner characteristic having a bearing on the programme design could be considered.

### *Subject knowledge*

According to Carl (1995:99) the common characteristics of subject knowledge taken into consideration are correlation with module descriptor objectives, organisation thereof, scope, depth, degree of difficulty, suitability for learners, textbooks available and relevance for life. Doll (1996:152) reminds one of the complexities surrounding the nature and role of knowledge in education by pointing out the following: (a) Knowledge has grown to an extent that what was “...*once a piece of a whole has now become a whole.*” (b) Blocks of knowledge that were formerly accepted are suddenly destroyed as entities. (c) The number of theories and hypotheses about phenomena is increasing. (d) Specialisation has become a phenomenon of modern life. Doll (1996:172-3) furthermore suggests that the knowledge to be included must include both substantive and syntactic knowledge. Central concepts and principles are part of substantive and subject inquiry methods are part of the syntactic knowledge. Both these types of knowledge are necessary for promoting deep understanding and problem solving.

Perspectives about the nature and role of knowledge influence the criteria according to which knowledge would be organised. CBE’s fit-for-purpose knowledge is mostly organised according to coherent learning units within modules and not according to discipline structures. The typical discipline-based organisation of knowledge is referred to by Lockett (2001:51) as mode 1 forms of knowledge production. Lockett (2001:51) further explains that mode 1 forms of knowledge are defined as “*homogeneous, rooted in the disciplines, hierarchically structured and coded according the canonical rules of specific disciplines, in which the scientific method is accorded a privileged place.*” By contrast, mode 2 knowledge is non-hierarchical, inter- or trans-disciplinary, trans-institutional, collaborative, contextualised and socially responsive. Mode 2 type knowledge is thus responsive to the needs of society and typical mode 2 questions will be ‘*what is effective?*’, ‘*what is useable?*’ and ‘*what works?*’ The modern generic or key skills such as communication, planning and organising, and being good citizens are examples of mode 2 knowledge.

### *Society features*

According to Gravett and Geysler (2004:152) a situational analysis should explore trends of the international and needs of the national society. They propose that analysis of the national society needs should include manpower needs and directives of the National Qualification Authority.

Clearly other society features such as the unemployment situation, political history and current policies of the state should be observed (cf. Ministry of Education of Namibia, 2005 “Guidelines for school principals”). Some dimensions of the ‘society variable’ need further attention, namely the ‘massification’, future trends and international concerns in higher education, a ‘wider African society perspective’, broad ‘stakeholder input’ in programme design and ‘occupational standards analysis’.

### Massification in higher education

Massification of higher education in international contexts has brought the following changes as depicted in Table 3.2.

**Table 3.2 Consequences of massification of higher education**

- ❑ *Diversification of functions, for example part-time students and continuing education of mature professionals*
- ❑ *A changed social profile of student populations*
- ❑ *Education for professions*
- ❑ *Tension between research and teaching*
- ❑ *Decline of primary knowledge production reconfiguring*
- ❑ *Broadening of awareness of the need for accountability*
- ❑ *Technology for teaching*
- ❑ *Multiple sources of funding for higher education*
- ❑ *Efficiency and bureaucratic subdivision of knowledge – the easily understood process of specialisation*

Source: Pretorius (2001:74-75) acknowledging Gibbons, 1998.

It is clear from the above table that the challenges of massification need to be recognised as they impact on the number and profile of students, cause a stronger focus on occupational specialisation, emphasise accountable management of institutions and the use of technology to expand teaching endeavours.

### *Concerns and future trends in higher education*



According to Breier (2001:2) international concerns of universities involve a number of forces or changes. These concerns are summarised in Table 3.3, indicating associated international curriculum issues that might accompany them.

Table 3.3 **International concerns in higher education**

<b>International concerns in higher education</b>	<b>Associated curriculum issues being addressed internationally</b>
<b>Globalisation, massification, internationalisation</b>	<p>What kind of curriculum could prepare students for participation in a global economy?</p> <p>How could the curriculum accommodate the effects of massification, primarily the changes in student population: diverse ethnic, racial, language groups, increasing numbers of adult and special needs students?</p>
<b>Responsiveness</b>	<p>To what extent should the curriculum be responsive to the needs of the economy, but also the needs of wider society or a particular community?</p>
<b>Different forms of knowledge</b>	<p>To what extent should the curriculum accommodate knowledge traditionally regarded as non-academic, local, indigenous or other previously marginalised forms of knowledge, as opposed to knowledge characterised as international, global, even universal?</p> <p>To what extent and how should the curriculum adapt to changes in knowledge production in which knowledge is being produced in the site of application rather than in the academy?</p>
<b>Disciplinarity</b>	<p>Should the curriculum promote the traditional disciplines, inter-disciplinarity or transdisciplinarity?</p>
<b>Lifelong learning</b>	<p>The new world economy requires adults to retrain several times in their working lives. What does a 'lifelong learning' curriculum look like?</p>
<b>Graduateness</b>	<p>What skills and forms of knowledge do employers value?</p> <p>Are these generic skills or discipline-specific skills and knowledge?</p>
	<p>What kind of citizen is envisaged and how can a curriculum forge a</p>

<b>Citizenship</b>	sense of national identity while also promoting global citizenship?
<b>Freedom and accountability</b>	What should the relationship be between institutional autonomy, academic freedom and public accountability, in an era of increasing responsiveness? How will these relationships affect curricula?
<b>Distance education</b>	What are the implications for curricula of the increasingly popular distance mode of delivery? What does a quality distance curriculum look like? What forms of learning cannot be facilitated in distance mode?

All of these concerns would have profound implications for programme development and programme designers of teacher education programmes would need to address these forces and their application in programmes. It appears from Table 3.1 that CBE designers agree with these concerns in Table 3.3 and therefore focus on, for example, the involvement of stakeholders and modules. The outcomes for a teacher education programme would furthermore have to consider what dimensions of ‘lifelong learning’ and ‘citizenship’ it would like to develop in teachers.

In addition to the above ‘international concerns’ Boschee & Baron (1993:20) identify some ‘future trends’ (presented in Table 3.4) that need to be considered by teacher education programme designers:

Table 3.4: **Future trends in higher education**

<b>Trend</b>	<b>Clarification</b>
<b>Globalisation</b>	<i>The world continues to get smaller and countries are becoming more closely tied politically, economically, and socially.</i>
<b>Technology</b>	<i>The increasing use of computers, robotics, and other technological innovations is changing how we live and work.</i>
<b>Communication</b>	<i>Internet worldwide communication is making news and information available to everyone almost as soon as it happens.</i>
<b>Knowledge explosion</b>	<i>The rate of knowledge and information acquisition continues to increase more rapidly every day.</i>

<b>Cultural diversity</b>	<i>Increased immigration and high birth rates will soon make present minorities the majority of the population in the United States and other industrialised countries.</i>
<b>Environmental conditions</b>	<i>There is increasing concern about the negative consequences of our failure to preserve our planet.</i>
<b>Family structure</b>	<i>Single parent and two working parent families are quickly replacing the traditional nuclear family.</i>
<b>Distribution of wealth</b>	<i>The rich get richer and the poor get poorer.</i>
<b>Quality revolution</b>	<i>Consumers are increasingly expecting higher quality products and services at more reasonable prices.</i>
<b>Aging population</b>	<i>Declining birth rates and longevity are increasing the median age of the population in the United States and many other industrialised countries.</i>
<b>National debt</b>	<i>The national growing debt in the United States and other industrialised countries is having a profound impact on many economic and political decisions and policies.</i>
<b>Service-oriented economy</b>	<i>The economies of many industrialised countries are shifting from industrial-oriented to service-oriented economies.</i>
<b>Cooperation</b>	<i>Many organisations are replacing competition with cooperation to increase productivity and worker satisfaction.</i>
<b>Rate of change</b>	<i>Change is occurring at an increasingly rapid rate in nearly all of our lives.</i>

(Source: Boschee & Baron, 1993:20)

It could be argued that some of these trends such as ‘family structure’ and ‘wealth distribution’ are more relevant for a national schooling system, however most trends are relevant for higher education. Although there is some overlap between the international concerns of Breier (2001:2) and the future trends of Boschee & Baron, the latter propose additional concerns to be considered. It is for example important for Namibian teacher education programmes to recognise the fact that local standards need to be comparable to global education standards; that technological innovations are increasingly part of everyday life and work contexts and that

prospective teachers are representing a wide cultural diversity and might be of an increasing median age.

#### *A wider African society perspective*

In 2001 the Association of African Universities (AAU) issued a declaration on the role of the African university that emphasised the following:

- (a) *African universities should inculcate responsible citizenship and the will to serve.*
- (b) *African universities must strive to foster the development of the mind and the ennobling of the spirit, must generate and disseminate knowledge and understanding, foster the values of openness and respect for merit, and help find effective solutions to perennial problems of poverty, hunger and disease.*
- (c) *They must contribute more actively to the removal of incessant social conflict, civil war and the displacement of human beings by establishing research and courses on peace and conflict resolution, democracy and human rights, solidarity and good governance.*
- (d) *They must involve all relevant stakeholders, be accountable and improve their functioning through regular institutional evaluation.*
- (e) *They must enhance national development and quality of life.*

(Association of African Universities, 2001:2-3).

Such statements support the development of both ‘academic and competent’ components as well as the relevancy / responsiveness of higher education for personal and national development. The development of the ‘intellect’, ‘ethics and morals’, ‘citizenship’, ‘quality of life’ or ‘promoting peace’ appears to correlate with global trends identified previously and such issues need to be analysed and incorporated into teacher education programmes.

#### *Broad stakeholder input in programme design*

According to Gravett and Geysler (2004:152) a situational analysis should explore different levels: an international level, a national level and an institutional level. Such levels imply, amongst other things, the involvement of stakeholders from these levels. The involvement of stakeholders requires reflection on *who* should be involved and *how* and *when*. As far as the second question is concerned regarding *how* stakeholders are involved, a range of techniques can be identified, such as the nominal group technique, search conferences, functional analysis,

interviews, critical incident technique, surveys, delphi, performance assessment observation, questionnaires, advisory groups and the DACUM (acronym for Developing A Curriculum) process (Department of Employment, Education and Training, Australia, 1990:6; Rothwell and Kazanas, 1992:53-54).

The DACUM process of developing a programme could influence the process of generating occupational standards. The Canadian, Norton, who developed DACUM, describes the DACUM process as involving seven procedural steps (NCRVE MDS-777, s.a.:1). These steps make ample provision for the involvement of stakeholders. The DACUM programme chart that is developed during the situational analysis, establishes a useful framework for the further development of a programme. The *format* of a DACUM chart needs to be observed by teacher education designers as this format might impact on the format of module descriptors. Harrisburg Area Community College, (1999:1) and DACUM Waste Management Specialist, (1995:1) provide examples of DACUM charts.

#### *Occupational standards analysis*

Teacher education goals should cover specified standards as an expression of a competent teacher, cf. the Namibian national professional standards for teachers (Ministry of Education, 2006). Such standards entail the specification and analysis of *roles* via an inductive approach. Identifying roles shift the focus from atomistic *tasks and procedures* to a more holistic *purpose and outcome* of work activity (Jessup, 1991:27) and ensure programme content is less likely to be de-contextualised. The analysis of roles is also helpful in determining how much weight should be allocated to a particular role. The two issues regarding occupational analysis to be considered for the purpose of this research are ‘what roles are perceived as valid’ and ‘what competency model is applied’ to identify these roles.

According to Burke (1989:190) work roles would typically involve standard (basic) occupational roles, management roles, contingency management and job environment roles, for example:

- *“performance of various technical and task components*
- *overarching management of the various technical and task components to achieve the overall work function*

- *management of the variance and unpredictability in the work role and wider environment*
- *integration of the work role within the context of the wider organisational, economic market and social environment”* (Burke, 1989:190).

Hyland (1994:23) acknowledging the work of Bartram (1990) as well as Jessup’s (1991) and Lubisi, et al. (1998:62) corroborates the generic roles of Burke (see above) that are based on a view of ‘competence’.

This debateable four-category model of occupational roles would imply that a competency-based programme for teachers according to this model should move beyond the basic teaching roles to the other three areas of task management, contingency management and job environment roles. One key question to be asked about this *generic* model is whether it could accommodate all *desirable roles of a teacher*. An examination of teacher roles as identified by different countries could provide insights with which to judge both the above generic model and the ADEd roles.

Depending on the needs analysis for a specific context and the beginner or advanced level of a qualification some of the roles would be more pertinent than others. The South African Department of Education identifies six generic roles for teachers to be developed in initial and further teacher education programmes:

- (a) *A mediator of learning*
- (b) *An interpreter and designer of learning programmes and materials*
- (c) *A leader, administrator and manager*
- (d) *Scholar, researcher and lifelong learner*
- (e) *A community, citizenship and pastoral role*
- (f) *A learning area / subject / phase specialist*

(Technical committee on the revision of norms and standards for educators, 1998:68-69)

In the South African standards each role is broken down into theoretical (foundational), practical and reflexive competences. The distinguishing of theoretical and practical tasks for a role is significant in order to integrate mode 1 and 2 knowledge. The researcher finds the distinction of

'reflexive' tasks to be an invalid category since the theoretical or practical ones could accommodate such tasks. The point however is that the identified 'a community, citizenship and pastoral role' is not catered for by the generic role model.

The California Commission on Teacher Credentialing (1997:1) identifies the following standards for initial teacher education:

- (a) Engaging and supporting all students in learning*
- (b) Creating and maintaining effective environments for student learning*
- (c) Understanding and organising subject matter for student learning*
- (d) Planning instruction and designing learning experiences for all students*
- (e) Assessing student learning*
- (f) Developing as a professional educator*

Each California standard is developed through exit and enabling outcomes with action verbs. Overall they display a similar focus as the South African standards except for the '*community, citizenship and pastoral role*'. This teacher role could be seen as falling outside the basic tasks, management and environment roles and a competency model needs a further category to accommodate this role.

The Australian roles for the beginning teacher are described by Chappell and Melville (1995:54) as follows: (in researchers' own order)

- (a) Facilitate learning*
- (b) Perform administrative duties*
- (c) Liaise with external and internal agencies*
- (d) Counsel students*
- (e) Professional development*
- (f) Planning and delivery of course content*
- (g) Participate in the development and review of courses*
- (h) Assess student competence*

This (Australian) list of Chappell and Melville (1995) contains apparently two more roles than the South African (S.A.) list, however this is mainly because ‘facilitate learning’, ‘assess student competence’ and ‘planning and delivery of course content’ are split here while the S.A. list combine the three roles into ‘mediator of learning’. The Australian list actually has five roles versus the six roles which South Africa has because it lacks the crucial S.A. role of ‘A *subject learning area* and *phase specialist*’. The S.A. role of ‘A community, citizenship and pastoral role’ correlates partly with the Australian ‘counsel students’.

The above South African list specifies only *roles* from which standards are developed. A revisit to the described CBE characteristics in Chapter Two points out that competence encompasses *knowledge, skills* and *attitudes / traits* related to roles and tasks. This suggests that a description of roles should be complemented by *knowledge, skills* and *attitudes / traits* to provide for a more complete description of standards. The DACUM process above suggests this too. Jessup (1991:27) also argues that ‘less tangible aspects of competence’ that contribute to being successful in a job entail more than carrying out roles competently. To the researcher these less tangible aspects would include knowledge, skills and attitudes / traits and need to be specified as well. The Australians, Chappell and Melville (1995:52-60), suggest such a holistic identification of competency standards for initial and continuing education of teachers that cover *qualities / traits* and *values / attitudes, skills* and *roles*:

*Qualities / traits:* flexibility; patience; commitment to education; compassion and empathy; ethical; equality; team player; self-confidence and openness; commitment to utility of learning outcomes; problem solving and working autonomously.

*Values / attitudes include:* the right of individuals to learn; respect, integrity in decision-making; professional responsibility and accountability; responsibility to industry for learning outcomes; justification for decisions made.

*Skills include:* communication and organisational skills, teaching skills update; classroom as well as conflict management; administrative; leadership; planning; implementing policies of gender, access and others in practice.



*A competency model for designing roles*

The occupational analysis for teachers as explored previously indicated that the dominant occupational competence model applies the following four domains: 1. routine or basic roles; 2. management roles; 3. contingency or non-routine roles and 4. work environment roles (Jessup, 1991:27; Burke, 1989:190; Hyland, 1994:23). The appropriateness of this competence model could be questioned in regards to its apparent lack of the inclusion of ‘leadership’ aspects and whether ‘contingency roles’ are not part of ‘management roles’. More importantly, this competence model appears not to balance the ‘competence’ roles with the ‘broader / general’ roles such as ‘lifelong learning’ and ‘citizenship’ (cf. Table 3.3) or possible ‘community development’ roles (Ministry of Education of Namibia, 2006:9) of a teacher.

The following model (in Table 3.5) is an example of how the possible occupational roles of a teacher could be analysed in terms of four quadrants: 1. Standard / core occupational roles; 2. Leadership and management roles; 3. Job environment roles and 4. General roles.

**Table 3.5: A possible competency model for designing teacher roles**

(1)	(2)
<p><b>1. Standard / core occupational roles</b></p> <ul style="list-style-type: none"> <li>❑ Facilitator of learning</li> <li>❑ Developer of programmes and short courses</li> <li>❑ Producer / user of learning materials</li> <li>❑ Assessor of learning</li> <li>❑ Particular learner phase and learning specialist</li> <li>❑ A subject specialist</li> <li>❑ Counsellor / adviser to learners and parents regarding physical, social and mental wellness</li> </ul>	<p><b>2. Leadership and management roles</b></p> <ul style="list-style-type: none"> <li>❑ Perform leadership functions in school</li> <li>❑ Manage schools, learners and instruction effectively</li> <li>❑ Be a reflective practitioner</li> <li>❑ Conduct research</li> <li>❑ Act according to a professional code</li> <li>❑ Compare own teaching experiences to local and international ones</li> <li>❑ Understand local educational legislation and practice</li> <li>❑ Be aware of own strengths and weaknesses and engage in professional development</li> <li>❑ Manage time, stress and projects</li> </ul>

<p><i>Possible sources for core and elective content:</i></p> <p>Psychology, Curriculum Studies, Philosophy of Education, Assessment and Evaluation Studies, General Teaching Methodology, Adult Education, School Subjects and Subject Methodologies, Professional practice, Micro teaching</p>	<p><input type="checkbox"/> Manage change and crises</p> <p><i>Possible sources for core and elective content:</i></p> <p>Leadership Studies, several Management Disciplines, Psychology, Educational Research, Professional Codes, Educational Law, Namibian educational legislation, Comparative Education</p>
<p style="text-align: center;">(3)</p> <p><b>3. Job environment roles</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Assertive communicator with stakeholders</li> <li><input type="checkbox"/> Develop relationships with internal and external stakeholders / team builder</li> <li><input type="checkbox"/> Self manager, e.g. career and portfolio</li> <li><input type="checkbox"/> Chairperson of meetings</li> <li><input type="checkbox"/> Technology user</li> <li><input type="checkbox"/> Thinking skills demonstrator</li> <li><input type="checkbox"/> Conflict solver</li> <li><input type="checkbox"/> Act in an emotionally intelligent way</li> <li><input type="checkbox"/> Coach of sport or cultural activities</li> <li><input type="checkbox"/> Applier of health and safety guidelines</li> <li><input type="checkbox"/> Demonstrate desirable attributes underpinning competent performance</li> <li><input type="checkbox"/> Develop professionally and participate in performance appraisals</li> <li><input type="checkbox"/> Develop learners' language skills</li> </ul> <p><i>Possible sources for core and elective content:</i></p> <p>Communication Studies, Industrial and Cognitive Psychology, Management Studies, Computer Studies, Human Movement, Home Economics</p>	<p style="text-align: center;">(4)</p> <p><b>4. General roles</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Act as community development agent, e.g. understand broad history of world, or art, music, sport...</li> <li><input type="checkbox"/> Act as a model citizen: e.g. democratic, ethical, gender equality, cope with life roles such as consumer and parenting</li> <li><input type="checkbox"/> Train parents / community members</li> <li><input type="checkbox"/> Advise on career and educational issues</li> <li><input type="checkbox"/> Impart lifelong learning skills</li> <li><input type="checkbox"/> Develop the profession</li> <li><input type="checkbox"/> Prepare for related careers</li> <li><input type="checkbox"/> Promote entrepreneurial skills</li> <li><input type="checkbox"/> Promote cross curricular aims, e.g. HIV/AIDS, thinking skills, emotional intelligence</li> </ul> <p><i>Possible sources for core and elective content:</i></p> <p>Philosophy of Education, History of Education, Sociology of Education, Comparative education, Educational research, Adult Education, Classic Cultural Studies, Art and Music, History, Philosophy, Indigenous or foreign languages, Local</p>

	politics, Development of civilisation
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(Sources: Adapted from Burke, 1989:190; Hyland, 1994:23; Jessup, 1991:27).

The model describes how the possible occupational roles of a teacher might be analysed in terms of four quadrants. Quadrant one (1) of the model identifies the core or standard roles of a teacher such as being a ‘facilitator of learning’ or ‘subject specialist’.

Quadrant two of Table 3.5 identifies possible school *leadership and management roles* regarding possible issues such as strategic planning, problem solving, educational legislation, ethics, organisational development and auditing. Quadrant two could moreover include the management of change and *future trends* such as *quality service, management of cultural diversity, cooperation rather than competition and managing change* (cf. Table 3.4). The supervisory role of the teacher in class, at sport or cultural activities, on the school ground, on tours or at gatherings might furthermore be addressed in this quadrant.

Quadrant three allows for developing all types of job environment competencies such as assertive communication, working in teams, thinking skills, meeting skills, computer literacy and emotional intelligence. This quadrant thus might cover aspects of personal, interpersonal and professional development that could be viewed as ‘employability and generic’ skills.

In quadrant four the wider role of teachers could be explored. Quadrant four provides the opportunity to offer general education modules, for instance, encompassing classical and local art, drama, music, history, politics and other fields. This quadrant thus might offer an opportunity to retain elements of History of Education, Sociology of Education or Comparative Education deemed valuable as part of general education. This wider role could address the development of *citizenship and life roles* (cf. Spady, 1994b:21-22), an understanding of principles of *adult education* that would enable teachers to *train and advise* parents / community members.

It would be the responsibility of the teacher education programme designers to adjust the credit hour weighting of each role and quadrant according to the type of teacher and level of the

qualification. Such a model as presented above can be used during a *DACUM* process to formulate roles and accompanying tasks.

A final situational analysis factor involves the analysis of ‘institutional factors’.

#### *Institutional factors*

Institutional factors such as views on the goals of higher education, views on goals of teacher education, views on teaching and learning, curriculum orientations, funding available, the organisation of knowledge and leadership and management practices could be analysed. Carl (1995:99) also identifies institutional variables such as qualifications of staff, staff development, physical facilities, and availability of teaching-learning resources as aspects to be reflected upon when new programmes are introduced. There is no argument that these variables should be accommodated. It could however be argued that *physical facilities, teaching-learning resources, leadership and management practices, qualifications of staff* and *funding* are more implementation than design issues and that they could be addressed by the implementation steps representing a more appropriate sequence. To the researcher the philosophical perspectives such as curriculum orientations, the purposes of higher and teacher education, a clarification of quality education and the organisation of knowledge should be addressed during the situation analysis as these perspectives impact on further design decisions and play a role in managing change. The reflection on the goals of higher education would touch on the relationship between education and the world of work, teacher education goals and how different curriculum orientations attain such goals.

#### **3.3.1.3 Formulating the rationale**

Some designers highlight the main and additional focus points of a programme under a heading of ‘focus statement’ (Harrisburg Area Community College, 1999:1) as the equivalent of ‘rationale’ reflecting the main reasons for introducing a programme. Any programme design must address questions such as: What needs is the programme trying to address? Why should it achieve this and not something else? Gravett and Geysler (2004:152) suggest monitoring whether the new programme purpose is not duplicating existing programmes. The rationale would utilise the findings of a situational analysis as indicated above to accommodate the institutional and societal manpower needs in order to ensure relevance. A de-contextualised curriculum runs the

risk of alienating teachers from the local and national teaching-learning context and could become ideological (Van Niekerk & Killen, 2000:91). De-contextualised teacher education programmes might lack proper co-ordination with the professional standards of a National Qualification Authority; might not address the need of particular teachers; might not address perceived shortcomings of practicing teachers, to mention a few.

The rationale furthermore should augment the mission of the Faculty of Education (Boschee and Baron, 1993:49) and make provision for a future career path in terms of accreditation with follow-up qualifications. Another challenge that a rationale may want to address is the one of the high attrition rate of teachers. Geysler and Wolhuter (2001:95) suggest that teacher education should be entrepreneurial in the sense of preparing and counselling teachers for related career possibilities. Thus, rather than merely losing teachers completely to business and industry, they could fulfil another educational role within the system. The researcher imagines that elective modules could introduce students to such wider job opportunities and a rationale would reflect this value added to the programme. Since qualifications are categorised in terms of NQA levels, each qualification prepares students for the next level. In this regard the rationale should provide preparation for further studies, for example, establishing a research methodology basis. Chappell and Melville (1995:52-60) suggest a holistic identification of competency standards for initial and continuing education of teachers that cover *qualities / traits* and *values / attitudes* apart from the competencies and knowledge.

The rationale should therefore not be too narrow since it directly influences the programme aims that are interrelated with the other programme components such as content, teaching-learning opportunities and assessment.

#### **3.3.1.4 Formulating the exit outcomes of the programme**

Carl (1995:101-107) reminds one of the reasons for, and levels and domains of, aims. One key idea of having such clear aims is to establish a picture of 'what is desirable' so that a plan could be devised to realise it. According to Gravett and Geysler (2004:153) exit outcomes are unambiguous statements on the competencies to be developed and describe observable, demonstrable and assessable performance via carefully selected verbs. Spady (1994a:49-51) defines exit outcomes as 'culminating' outcomes which express competencies that 'really matter

in the long run'. Exit outcomes thus specify what a student should be *able to do* when s/he graduates from the programme (York Technical College, 2001:Ch 2; Spady, 1994b:18).

The exit outcomes are further defined by the enabling outcomes (Spady, 1994a:19) that are like exit outcomes focusing on *able to do* performances. For example, if the role is identified as “*engaging and supporting all students in learning*”, exit outcomes regarding this role could be:

- “*connecting students’ prior knowledge, life experience, and interests with learning goals*”;
- “*using a variety of instructional strategies and resources to respond to students’ diverse needs*”. (California Commission on Teacher Credentialing, 1997:5).

Each of such exit outcomes are further developed through enabling outcomes. For instance, under “*connecting students’ prior knowledge, life experience, and interests with learning goals*” *enabling outcomes* could be:

- “*help students to see the connections between what they already know and the new material*”,
- “*open a lesson or unit to capture student attention and interest*”.  
(California Commission on Teacher Credentialing, 1997:5).

The exit outcome example directly above suggests that exit outcomes rarely specify knowledge, attitudes or traits as ends. These details are, however, addressed when exit outcomes are developed further into module descriptors. Performance (enabling) outcomes in module descriptors, unlike exit outcomes, might specify apart from observable learner behaviour the *conditions* also under which a student must perform and the *criteria* against which the performance will be *measured* (York Technical College, 2001:Ch 3,13). An example of such a performance outcome may be: Given a computer, use Microsoft Word 2000 and create numbered and bulleted paragraphs which are 100 percent correct (York Technical College, 2001:Ch 6,17).

The philosophical spectrum of the exit outcomes should encompass the range as indicated by the rationale while addressing dimensions of the situational analysis (cf. Table 3.2 - 3.4): outcomes that reflect responsiveness; mode 1 and 2 knowledge; indigenous African and global academic knowledge; differentiations of disciplinarity; outcomes that promote lifelong learning and generic skills and outcomes that develop national and global citizenship. Breier (2001:31) warns that the skills focus and interdisciplinary organisation of modules has contributed to a decline of student and institutional interest in the humanities. This neglect of the humanities is rather unacceptable since generic skills could actually be better developed by social sciences than by the pure sciences (Breier, 2001:31).

Breier (2001:15) continues to remark that although generic skills are prized by employers and that this is associated with Gibbon's mode 2 knowledge, there is a body of critique which emphasises the situational nature of knowledge and the context-specificity of skill acquisition. According to Marsh (1997:69-76) different countries have developed very similar generic competencies such as 'language / communicative skills'; 'problem solving skills'; 'self-management skills'; 'social / interpersonal skills'; 'working with others in teams'; 'study skills' and using technology' and 'acquiring, organising and interpreting information'.

Programme designers should observe the competency model and the teacher roles that have been identified during the situational analysis step and develop exit outcomes that represent *each role*. Boschee and Baron (1999:41) emphasise that exit outcomes should encompass *future oriented* needs as well. Since exit outcomes display desirable competencies rather than knowledge, they represent rather the breadth of a programme rather than the depth, because the question of *depth* of competence is equated with the depth of knowledge and understanding (Jessup, 1991:27).

The scope of roles for an intended programme should correspond with the rationale and NQA requirements for particular levels of programmes. In South Africa the qualifications of all *teachers* should include the following aims / outcomes:

- (a) *Identifying and solving problems in which responses display that responsible decisions, using critical and creative thinking, have been made*
- (b) *Working effectively with others as a team, group, organisation, community*

- (c) *Organising and managing oneself and one's actions responsibly and effectively*
- (d) *Collecting, analysing, organising and critically evaluating information*
- (e) *Communication effectively, using visual mathematical and/or language skills in the modes of oral and/or written presentation*
- (f) *Using science and technology effectively and critically, showing responsibility towards the environment and health of others*
- (g) *Demonstrating an understanding of the world as a set of related systems by recognising that problem solving does not exist in isolation*
- (h) *Students should be aware of the importance of reflecting on and exploring a variety of strategies to make learning more effective*
- (i) *Students should also be made aware of the importance of participating as responsible citizens in the life of local, national and global communities*
- (j) *Students should also be made aware of the importance of being critically and aesthetically sensitive across a range of social contexts*
- (k) *Students should also be made aware of the importance of exploring education and career opportunities*
- (l) *Students should also be made aware of the importance of developing entrepreneurial opportunities* (Technical committee on the revision of norms and standards for educators, 1998:41-42)

These programme outcomes thus display features of graduate higher education as well as local and global manpower needs. The teacher education purposes of the Faculty of Education at the University of Malta refer to the ability of teachers to interact with others; support learning through innovative teaching and counselling; reflect on the different elements of education; link theory and practice and have strong morals (Sultana, 1995:215-228). Ryan and Martens (1989:5) contend that “*whatever the course, it should help students clarify their beliefs and values...*” because the “*...development of values is an educational outcome as important as the acquisition of subject knowledge*”. The Australian Council of Deans of Education (Report of the National Standards and Guidelines for Initial Teacher Education Project, 1998:9-18) proposes the following attributes as national standards and guidelines for beginner teachers that can be linked to roles and developed through exit outcomes of teacher education programmes:



- (a) *General professional attributes such as commitment to standards, communicate well, reflective practitioners, aesthetic and creative skills, lifelong learners and action researchers.*
- (b) *Identify abuse and follow principles of health and safety*
- (c) *Be aware of indigenous cultural perspectives*
- (d) *Understand a learner-centred approach*
- (e) *Numeric and problem solving ability*
- (f) *Understand, use and evaluate appropriate technology*
- (g) *Working with others. This involves interpersonal skills to cooperate with colleagues, support staff, parents and graduates.*
- (h) *Understanding of the national system and range of teachers' roles*

As can be expected there would be different views about the purposes of universities since there are different curriculum orientations that determine the views of 'what education is all about'. Conrad & Haworth (1990:250-253) identify the following desired outcomes for all professional graduates:

- ❑ *Communication competence (acquire and convey ideas/information)*
- ❑ *Critical thinking (possess thinking skills to evaluate and synthesise info)*
- ❑ *Contextual competence (understanding of societal context of the profession)*
- ❑ *Aesthetic sensibility (awareness of and sensitivity to art forms)*
- ❑ *Professional identity (expertise and concern for improving the profession)*
- ❑ *Professional ethics (accept ethics that guide professional behaviour)*
- ❑ *Adaptive competence (anticipate and adapt to changes in society/profession)*
- ❑ *Leadership capacity (exhibit the capacity to assume leadership roles in society / profession)*
- ❑ *Scholarly concern for improvement of professional theory and practice (research)*
- ❑ *Motivation for continued learning (lifelong professional knowledge growth)*

Knight (1995:26-32) reduces many possible purposes of university education to four categories. These four categories and what they entail for Knight, are:

- (a) *“To provide a general educational experience of intrinsic worth in its own right.”* This will include the development of various thinking skills, aesthetic values, moral and citizenship values and computer literacy (Knight, 1995:26-27).
- (b) *“To prepare students for knowledge creation, application and dissemination.”* This purpose can be broken down into aims like acquisition of deep knowledge, conceptual frameworks and current theories of the subject studied; understanding of the subject’s methodologies, procedures and ethical constraints; experience of knowledge creation through small research projects; communication skills pertinent to the discipline and development of team working skills if appropriate in the discipline (Knight, 1995:30).
- (c) *“To prepare students for a specific profession or occupation.”* This will encompass aims such as the integration of theory and practice; acquisition of expertise derived from application of knowledge in real contexts; development of competencies through experience; acquisition of the relevant norms, attitudes, personal qualities and collegial ways; understanding of the organisational contexts in which one is likely to be working and of the role of the profession in society; development of the ability to reflect on one’s own practice and to determine development needs (Knight, 1995:31).
- (d) *“To prepare students for general employment.”* The following characteristics can be distinguished here: work experience in a variety of settings; assimilation of information and analysis of issues from several perspectives; development of communication and computer skills; development of personal qualities such as self-motivation, time management initiative and leadership; development of team working, problem solving and judgement skills; understanding of the nature of change and preparedness to adapt appropriately (Knight, 1995:32).

These proposed purposes would arguable be very acceptable to many universities and other institutions of higher education. They reflect a subject-based design with a very strong academic base but are balanced with preparation for the practical working environment through problem solving, working in teams, computer skills and management of change. It is clear that these purposes are no longer purely academically oriented but that the role of the university seems to

address to some extent the occupational needs of society. These balanced purposes are very congruent with the idea that the university is a place of learning and that effective learning should incorporate theory, competencies and values. This purpose perspective is not fundamentally different from outcomes that the CBE orientation encompasses. The first major purpose related difference is that the CBE approach formulates these purposes as outcomes and systematically plans which module / subject are actually developing the specified outcomes. A second major difference is that CBE may reduce subject content when compared to a subject-based design, as the content is selected on the basis of relevance for purpose.

The correlation of the four-category competence model (cf. Table 3.5) with the four areas of a *total quality* approach is noteworthy: (a) Personal and professional development involves character, knowledge and skills development. (b) Interpersonal relations requires development of emotional intelligence and communication skills (c) Managerial effectiveness refers to dealing with control, logistics and efficiency and (d) Organisational / leadership effectiveness deals with setting direction and motivating people (Covey, 1992:250-252).

### **3.3.1.5 Determining the admission requirements**

Foxcroft, et al. (1998:11-23) implicitly suggest that changing political conditions require universities to broaden access and therefore programme designers should rethink the purpose and nature of admission requirements. The broadening of access could, amongst other strategies, be attempted through changing admission criteria and the recognition of prior learning. Breier (2001:4-5) suggests a better articulation between the schooling and higher education system, the provision of bridging courses and distance education in order to promote equity. Chapter Two (cf. 2.4.1) has indicated that CBE emphasises designs that enhance success for all students. The 'situational analysis' step (cf. Chapter Three, Section 3.1) additionally confirms the need to meet learners at their current level of development and guide them to the desired levels of quality. Universities need therefore to recognise the strong and weak features of the national schooling system that will be reflected by the school graduates and decide how to accommodate such features.

Apart from understanding the characteristics of local prospective students, essential student prerequisites should be carefully identified. Blank (1982:44-52) proposes that admission

prerequisites could encompass the four categories of “*Physical traits or Abilities*”, “*Previously learned Skills*”, “*Previously learned Knowledge*” and “*Previously acquired Attitudes*”. Some of the prerequisites may be an *occupational* requirement and some an *institutional* requirement that aims to ensure successful completion of a programme. The institutional requirements must in turn be commensurate with the NQA admission requirements. The synthesis framework (Table 3.1) emphasises not only a revisit of admission *criteria* but also of admission *procedures* that might accommodate multiple entry points in terms of time, locality and mode of registration. The synthesis framework (Table 3.1) however does not address several admission issues such as quality assurance, planned maximum total of students, gender equity or over subscription.

The following key dimensions of ‘admission requirements’ need consideration: recognition of prior learning and developmental / pre-entry courses and procedures.

### *Recognition of prior learning*

Although admission to universities could be obtained via *mature age* entry tests it is the researchers’ experience that such admissions were few and far between and the tests not necessarily relevant for the type of programme a student would like to enrol in. An improved strategy for alternative admission is the *recognition of prior learning* (RPL). Referring to Cohen, et al. (1993) Geyser (2001:31) defines RPL as the comparison of previous learning and experience of a learner howsoever obtained, against the learning outcomes required for a specific qualification. The detailed module descriptor documents of CBE programmes are helpful in this regard. A broader perspective of RPL is presented by Osman and Castle (in Gravett and Geyser, 2004:126-133) via the description of three models of RPL. Their ‘credit exchange model’ involves the recognition of ‘prior accredited learning’; the ‘developmental model’ requires candidates to compile and evaluate their prior learning experiences and the ‘transformational model’ of RPL that requires institutions to recognise informal and experiential learning on their own terms without matching it to academic programmes.

Whatever model an institute applies RPL is meant to allow for alternative ways to gain access or receive credit for some courses. Geyser (2001:35) mentions some academic and administrative standards that could ensure quality assurance in RPL and also list some assessment tools like standardised exams, final exams, portfolio reviews and oral and practical tests. Jessup (1991:60-

62) has augmented these suggestions with ‘conditions and arrangements’ for doing so and adds to these the following tools: design or manufactured products and certificates or letters of validation that endorse performances and job descriptions.

Aarts, et al. (1999) in Geysers (2001:35) summarise some key research findings on RPL in Canada as follows: Adult learners have relevant college level prior learning; prior learning can be successfully assessed; early concerns that candidates might attempt to acquire large portions of their credentials through RPL were unrealised; RPL strengthened students confidence in their capacities to pursue further education; RPL students were successful students; there is a need for greater public awareness of RPL. A national research programme to test the feasibility of implementing RPL in Great Britain in colleges of further education and vocational training concluded that RPL “*is feasible and could be highly cost-effective*” (Jessup, 1991:62). As people change jobs more frequently than in the past, and (developing) countries strive to advance their human resources’ potential, recognition of prior learning will play an increasing “important role in the future” as more adults return to education or change careers (Jessup, 1991:67). In addition, Breier (2001:18) suggests that there is a need for research to trace the success rate of RPL graduates.

### **3.3.1.6 Compiling module descriptors and module outlines**

There are different views about whether the *structure* of a programme precedes the *content development* or vice versa. Four of the analysed programme framework examples that address this sequence clearly suggested that the programme structure precedes the development of the programme content – see Kennedy (1993), Fletcher (1995) York Technical College (2001) and Lyon (2003). Another three – Blank (1982), Rothwell and Kazanas (1992) and Foxcroft, et al. (1998) proposed that the content development precedes the determination of the programme structure. The researcher has opted for the latter because as the literature in Chapter Two points out (see the description of modules, 2.4.2 and 2.4.4, the systems approach steps) CBE programmes develop the content prior to the programme structure. It makes sense that content of modules be clearly defined before one could determine their sequence within the duration of the programme. In reality it might mean that the minimum duration requirements of an NQA that was accepted at step four might be changed at this step if the selected content outcomes require more or less time.

At this stage in the design, the exit and enabling outcomes have already been formulated (see step six) and step nine now further develops the outcomes to include knowledge and traits and attitudes. It would however be a good idea for programme designers to reflect critically on the determined exit and enabling outcomes and see that the relevant occupational roles, additional general roles and graduate competencies are incorporated. Killen (1999:9) refers to the ten life roles listed by Spady (1994) that could be considered as part of the 'general roles', for example, learner and thinker; planner and designer; team member and partner; problem finder and solver. Smith's (2005:3-4) discussion of competence is applicable here in the sense that designers need to ensure that the outcomes encompass 'competence' as traits of virtue and not merely 'competencies'. Aguinis and Kraiger (2005:1) argue that a competency such as 'planning' is a *cluster* of competencies such as setting goals, assessing variables and developing a sequence of actions. Cherniss (2004:1-2) points out that research on emotional intelligence training has revealed that such trained candidates performed better regarding stress management, leadership, interpersonal relations, self confidence, managing change and listening and communication skills. The emotional intelligence cluster is thus not only very important but demonstrates what could be linked in modules. Programme designers need, therefore, to recognise clusters of competencies in order to organise the units coherently within modules. The emotional intelligence cluster would fall under 'job environmental roles' and moreover contribute to the development of traits 'as being' that move beyond 'able to do' competencies.

Against the background of the CBE features (cf Section 2.3) the term 'syllabus' is replaced with the term 'module descriptor'. The compilation of module descriptors would reflect the integration of discipline knowledge as a move away from a scientism towards a constructivist epistemology. The knowledge should cover all the Bloom's levels of and be reflected by the verbs. The criticism levelled against CBE regarding a narrow scope and atomistic units of knowledge (cf. Section 2.7) has served a beneficial function with regard to module descriptors since knowledge levels are to be reflected as part of performance outcomes. McCann, et al. (1998:201) remind teacher education programme designers that the outcomes of a module descriptor should identify the competencies for *beginning* professional practice, and not for the *ideal* future practitioner. The latter focus will impact on the listed competencies to include more expert competencies than desirable. That does not mean however that the minimum NQA requirements should be adhered to slavishly.

A designing down of module descriptors from occupational relevant outcomes, results in a different organisation of modules' content than that of a typical subject-based organisation. Competencies and knowledge are integrated into coherent units of competence. Each unit is based upon an exit outcome that is developed through several elements / enabling outcomes that could be described by means of *performance criteria* and *range statements* (Jessup, 1991:37). The performance criteria set out what counts as successful performance of the outcome / element. It is furthermore important to note that performance criteria refer to the successful outcome and not to the procedures for carrying it out, because changing contexts could require different procedures. The 'range statements' indicate the range of different working contexts and conditions for application of an outcome and thus guide trainers, trainees and assessors. The usual dimensions of range statements include reference to organisations; equipment; materials; work conditions; customers; products and services (Jessup, 1991:32-33).

The following example (Table 3.6) demonstrates how an exit outcome is developed through performance criteria and range statements.

**Table 3.6: Example of an exit outcome with performance criteria and range statements**

<i>Exit outcome:</i>	Prepare sites for installation and testing of switching and transmission equipment.
<i>Performance criteria:</i>	Adhere to safety conditions; Specified plans, materials and equipment are available at the site according to schedule and stored in a safe manner;
<i>Range statements:</i>	Deal with different work sites, e.g. indoor / outdoor; above / below ground; Industrial / commercial installations; Analog and digital switches. (Source: Fletcher, 1998:12)

Some designers include a statement of required *knowledge and understanding* after the range statements, as shown in Table 3.7.

**Table 3.7: Example of an outcome with performance criteria, range statements, and knowledge and understanding**

<i>Outcome:</i>	Create and enhance productive working relationships with colleagues and those for whom one has supervisory responsibility.
<i>Performance criteria:</i>	Efforts are made to establish and maintain productive working relationships; Differences are dealt with in ways that maintain productive working relationships;
<i>Range statements:</i>	The people includes colleagues, customers and suppliers; Information is conveyed informal, formal; oral and written format
<i>Knowledge and Understanding:</i>	Principles and methods relating to establishing constructive relationships; Motivate staff. Provide constructive praise and criticism; Handle conflict.

(Source: Mathews in Burke, 1995:250)

Tables 3.6 and 3.7 reflect that module descriptors could be developed via different formats. If it is accepted that module descriptors should reflect scope and depth, than knowledge should be included. However, the indication of knowledge and understanding as specified in Table 3.7 is too broad to be of value, for instance, how much theory about ‘handle conflict’ or ‘motivation of staff’ is to be learned? It would appear that although the above detailed planning example seems very logical it is not accurate enough for a module descriptor. The researcher maintains that the application of performance criteria and range statements as demonstrated above are rather unproductive and that module descriptors for higher education could formulate performance outcomes according to the criteria of *who* should do *what* at what *standard* and under what *conditions*. In this way the use of separate performance criteria and range statements are eliminated as shown in Table 3.8.



Table 3.8: **Criteria for formulating outcomes**

<i>Outcome:</i>	Using case study information and a planning template, complete a sample business plan which includes a marketing strategy, a financial viability statement and an implementation timetable.
<i>Who:</i>	students
<i>What:</i>	complete a sample business plan
<i>Standards / level:</i>	which includes a marketing strategy, a financial viability <i>achievement</i> statement and an implementation timetable
<i>Conditions:</i>	using case study information and a planning template

(Source: Smith, Marriage and Gillespie, 1994:84)

This outcome formulation is more specific than traditional vague topics in a module descriptor, however it has not been over-analysed to a point of unproductiveness. It is accurate enough to guide teaching and learning, reflects depth of theory and to prevent duplication of content. Moreover, it allows for links to other outcomes. The researcher contends that much confusion and resistance to CBE could be overcome if university staff could compile meaningful module descriptors in the demonstrated manner without the use of ‘performance criteria and range statements’. An extract from a module descriptor example from Purdue University Calumet (2003:3) demonstrates the absence of performance criteria and range statements and the use of clear outcomes per unit that encompass performances and knowledge (see also York Technical College, 2001:ch 6,17).

**Learning outcomes:**

*Unit 1: Operations strategy*

1. Describe in your own terms the operations function of any enterprise.
2. Explain what is meant by a systems approach to decision making analysis.
3. Identify symptoms of dysfunctional production systems and their causes.
4. Compute the expected value of perfect information, etc.

The above integration of competencies and knowledge in a module descriptor addresses the unfortunate divide between the academic and the practical application of knowledge in universities. The verbs of outcomes that reflect application of knowledge could be monitored in

module descriptors and planning could be done to ensure those competencies could develop adequately in either institutional or workplace settings.

Once meaningful units are developed the designers could group units into a module. According to Doll (1996:183) CBE dissolves subject boundaries where deemed necessary and links sections from across subjects. That is why the concept ‘module’ reflects this move away from ‘pure’ subjects. The reorganising of subject content into modules makes the “*traditional subjects the servants rather than the masters*” of a programme. Doll (1996:183) furthermore points out that modules do not disagree with the boundaries of subjects per se, and are not limited by the boundaries in organising subject matter for sensible learning. CBE module descriptors could be sequenced according to logical concept development, simple to complex competencies and knowledge, deductive or inductive chronologically, in terms of spatial or physical relationships and so forth. However it should always be aware of the developmental levels of students. According to the researcher the organisation of CBE programme content moves away from a spiral organisation of content where subject knowledge is repeated in the following year on a deeper level.

The scope of the programme modules should furthermore be monitored regarding compulsory *core* modules or *elective modules* appropriate for career specialisation. According to the Public Service Commission of Canada (1998:2-6) core competencies are those essential *individual* competencies that are linked to essential *organisational* competencies. Such competencies should furthermore be identified via a blending of the bottom-up and top-down approaches; incorporate the ‘traits dimension’ of competence; attend to the contextual needs of the private or public sector and moreover include future oriented competencies. Core modules should, in addition, be analysed in terms of the weight allocated for *theory* and *competencies*. The traditional ‘teaching practice’ could, for instance, be viewed as a competency module that focuses on developing competencies from different modules. The theoretical components in turn need to reflect international and local circumstances, for example, educational law aspects need to include Namibian educational legalities and international ethics need to be complemented by Namibian ethical perspectives.

Blunt and Cunningham (2002:127-137) warn against *too many* elective modules that could later prove to be unsustainable as a great freedom of choice could lead to administrative and timetable problems. They furthermore warn against an imbalance between service modules with career-oriented content and academic knowledge modules. They continue to suggest that some subjects such as History and Philosophy of Education need not be devalued as they do not have something ‘to sell’ but rather need to be analysed to determine what competencies (such as problem solving or critical thinking) could be achieved via them. History, Philosophy and other typical academic disciplines that could be devalued because of their apparent ‘less relevant to careers content’ do not have to disappear from university education. These subjects could contribute to education as part of ‘generic modules’ to broaden horizons but aims that could be achieved through studying these subjects need to be formulated.

The value of many subjects merely needs to be re-discovered and their relevance for many careers or for contributing to aims such as: developing understanding of the interdependence of the world, to develop critical thinking, to develop emotional maturity, to contribute to keeping peace on earth, to enhance humanity through focussing on values and to ask reflective questions. It is possible that the subjects that are perceived to be less marketable subjects, could in fact contribute much to the achievement of some of the generic, cross-curricular competencies or insights because the ‘marketable’ problem is linked more to the lecturers’ approach than to the nature of the subject.

The names of academic disciplines are typically replaced with descriptive titles to reflect their interdisciplinary nature (Blunt and Cunningham, 2002:137). They also point out that modules should have a standardised length or credit value to fit into a semester or year course system and that modules should, as far as possible, be independent from other modules. This implies that pre-requisites are influenced and kept to a minimum.

The synthesis framework (cf. Table 3.1) proposes the use of a module descriptor template. An analysis of teacher education module descriptors produced the following headings to format a module descriptor: Module title, Code, Admission requirements or pre-requisites, Total hours / contact hours per week, Credits, Lecturer, Course description, Exit / major learning outcomes, Learning outcomes, Course assessment, Prescribed learning material, Course requirements and

expectations, Equipment to be bought, Additional costs, the next Revision date. Although faculties might not see the need for all such headings most communicate useful information of a programme to the benefit of different stakeholders in education (University of Northern Iowa Teacher Education module descriptor, no date; Purdue University Calumet, 2003; Victoria College, 2003; York Technical College, 2001:Ch 6,17).

The module descriptors as formal documents are important as tools to manage the instruction of a programme well and to inform different students, staff and moderators about the expected quality. The final development of a module descriptor results in a 'course outline / schedule'. (A more descriptive name could be 'course implementation schedule' as far as the researcher is concerned). Course schedules / outlines are documents that stipulate implementation specifics, for example, they relate the outcomes of module descriptors with periods available and resources relevant for particular outcomes. Course outlines furthermore provide dates and other details for tests, assignments, practical work or student presentations (Purdue University Calumet, 2003:6-7; York Technical College, 2001:Ch 6, 24). Course outlines thus enable students to better direct their learning efforts and time but these outlines also require lecturers to do proper planning before courses commences.

### **3.3.1.7 Establishing the broad programme structure**

Once the module descriptors are completed it is possible to establish the broad programme structure. This structure reflects the position of modules for the duration of the programme. Posner (1992:10) reminds one that the programme structure is part of the operational curriculum that guides teaching-learning and assessment and could serve as a basis for accountability.

Modules are commonly standardised in terms of length, however some core modules might be perceived as of higher priority and need therefore more hours than electives. The structure needs to reflect these priorities. The programme structure should clearly indicate the *compulsory* core and *electives* for each semester. In addition, the programme structure illustrates the most appropriate sequencing of modules. Even if most modules were designed to be as independent as possible a logical learning perspective would influence the sequence and therefore the pre-requisites for modules. As indicated previously, the tendency is to keep pre-requisites to a minimum. Some modules might be changed slightly in accordance with the sequencing

perspectives or even to ensure that they may be transferable to several qualifications. Young (in Burke, 1995:171) points out that the sequence of modules would influence possible exit points.

Table 3.1 proposes that the programme structure should indicate the work-based (teaching practice) modules as well. Furthermore, on completion of the structure designers must consider and document the implications of phasing in the new programme and phasing out the existing one.

### **3.3.1.8 Developing the assessment regulations and instruments**

The intricacies of CBE assessment were discussed under Section 2.3.4.6. Module descriptors should reflect the regulations and methods of how the achievement of knowledge and competencies would be met. According to Grant and Kohli (in Grant, et al. 1979:141) it is common practice that the assessment system is concerned with excellence for a few while “...*the herd slips through with C’s and B’s and very little competence.*” Bowden and Masters (1993:86) point out more strongly that initiatives in education could “...*stand or fall on the strength of their accompanying assessment procedures and, more particularly, on the feasibility, credibility and reliability of those procedures.*” One of the regulations influencing the quality of education is the required passing grade for theory and practical tests. These grades must be carefully established and clearly communicated. The synthesis framework (cf. Table 3.1) proposes that competencies should *not* be passed on an aggregate as this counters the idea of criterion referenced assessment.

Furthermore, support for mastery involves students having a re-testing opportunity. The re-testing policy should be clear about when and how many re-tests are allowed before students are financially or otherwise penalised, what timelines would be allowed for re-submission and what grading criteria would apply (University of Northern Iowa, s.a.:4-5) A variety of assessment methods are required to measure knowledge and performances fairly and reliably (Toohey, et al.1995:104). The assessment of attitudes might be addressed via techniques such as essays, analysis of case studies, interviews, oral examinations and attitude checklists (York Technical College, 2001:Ch 3, 21). Another dimension of a CBE assessment is the individualisation of the assessment system. According to Armstrong (1997:4) an individualised system might be theoretically sound, but the practical implementation creates many administrative difficulties.

Related to the mastery concept that CBE assessment tends to follow is the implication that as much content as possible per module is assessed (Maxwell, 1997:6). The idea of continuous assessment is in line with this and the minimum formal assessments per module should be specified. This specified minimum of grading oriented assessments should, however, take into account modules in a higher education context with large numbers of students. Clearly, not all learning outcomes of each unit can be assessed, marked and discussed with students. The synthesis framework (Table 3.1, Step 11) also suggests that programme designers consider and clarify the role of non-grading assessments. Such assessments do not contribute towards the official grading but rather serve as a learning experience. Self-assessment, peer-assessment and handing in of short assessment tasks that are not graded could be part of non-grading assessment. Feedback on such exercises is an important element of the learning experience (Ling, 2000:3). The assessment policy could require that the handing in of tasks for non-grading assessment should be recorded because such tasks are perceived as a *compulsory learning* experience. When non-grading assessment tasks are viewed as compulsory learning, the question must also be answered if and how students would be penalised for not producing non-grading tasks.

The regulations must be clear on how much the continuous mark and the summative assessment mark contribute towards the final pass mark, since this influences the validity of the assessment (Killen, s.a.:14-15). Although not mentioned by the synthesis framework, assessment regulations typically specify the involvement of moderators for examination papers. Moderators are to monitor the validity of the paper and allocation of marks which strongly influence the quality of a programme. As CBE programmes have more independent modules and few pre-requisites, the traditional *promotion* rules are bound to be revisited. Moderators would have to realise that the evaluation of CBE programme results can not be interpreted according to the 'normal curve'.

A noteworthy recommendation which appears in Table 3.1 is the development of performance test instruments as well as written tests at this stage of the design. It might seem logical to assign staff to start developing both types of tests before actual implementation; however step 20 or 26 could address this aspect timeously. The competencies that are reflected by the practical verbs (York Technical College, 2001:Ch 6, 14-15) should indeed be assessed via practical demonstrations. The teaching practice module descriptors could incorporate practical tasks from many modules and instruments need to be developed. One problem that instruments need to

address is ‘the whole versus the sum of the parts’ (Grant and Kohli in Grant, et al. 1979:152). Consideration should be given as to what percentage for presenting lessons should be accepted as demonstrating competence and what percentage for written portfolios addressing workplace issues. The suggestion that module descriptors and course outlines include key assessment regulations to guide students clearly can be seen in Table 3.1.

### **3.3.1.9 Obtaining programme approval from key stakeholders**

UNAM and other institutional programmes (face-to-face) will only be recognised if they meet the following Namibian National Qualification Authority (NQA) criteria:

- (a) *“Purpose of the course” (clear aims and objectives)*
- (b) *“Relevance of the course” (Content promotes understanding and critical reflection)*
- (c) *“Admission requirements” (Valid and clear selection policy)*
- (d) *“Recognition of prior learning” (How will it be done?)*
- (e) *“Relevance to Namibian curricula” ( Programme content includes analysis of Namibian contexts and applies ideas to solve real Namibian problems)*
- (f) *“Instructional design” (Logical, integrated and coherent content within and between modules)*
- (g) *“Teaching-learning model” (How much the programme promotes a teacher’s teaching, thinking and assessment skills?)*
- (h) *“Assessment strategy” (Is formative and summative assessment included? Is theory and skills of teachers assessed?)*
- (i) *“Student counselling” (Are the necessary support services in place?)*
- (j) *“Recent research” (Is content reflecting latest and alternative perspectives?)*
- (k) *“Module descriptors” (The aims, hours, outcomes, learning tasks and assessment policy are clear)*
- (l) *“Nominations” (Is there a programme advisory and evaluation committee?)*

(Source: NQA of Namibia, 1998:1-19)

These criteria might be adapted soon and in addition to these criteria the Namibian National Qualification standards for the teaching profession must be met.

The paragraphs above address additional perspectives that serve to upgrade the already proposed *design* perspectives in Table 3.1. The next section addresses additional theoretical perspectives to upgrade the *implementation* steps of Table 3.1.

### **3.3.2 Additional implementation perspectives to Table 3.1**

Additional perspectives for some of the implementation steps comprise the following:

#### **3.3.2.1 Leading and managing administrative changes**

Given the nature of CBE education as described in Chapter Two (2.3-2.5), administrative changes are required to the traditional administration (cf. VETNET Symposium, 2000:3; Burke, 1989:146; Wolf, 1995:131) and Spady, 1994a:102). The previously mentioned design steps indicated that changes to admission criteria, new formats of module descriptors and new assessment regulations were to be introduced. This implementation step however introduces further administrative changes that need to be addressed by the leaders of a faculty. According to the Department of Education of South Africa (1997b:34) staff and students are more involved in design and implementation related committees and forums. Sullivan (1995:6) points out that the development of questionnaires and learning materials and training of staff require management changes.

With reference to section 2.3-2.5 as well as Table 3.1 lecturers might be required to maintain more office hours to support individual students or tutor small groups. More continuous assessment exercises and a re-test policy would result in more marking for lecturers and calculation of workloads should accommodate this. Furthermore, the production of module descriptors would require meeting time with stakeholders and workload formulas should take that into account as well. The conducting and marking of new admission tests, such as English proficiency, would increase workloads as well. The design and typing of performance instruments would also add to the workload of lecturers, especially when introducing a new programme. All of these changes required by effective CBE practices might impact on the criteria for the staff recognition and the promotion system as well as the performance appraisal instruments (State of Kansas, s.a.: 8).



Catri (2002:3) reminds one of the assessment of competencies and the provision of frequent feedback which would require managerial changes. It can be seen in Table 3.1 that assessment records might need to be adapted to provide for re-testing marks and possibly ticking off the handing in of non-grading exercises. Such changes may require updating of computer software. The registration fees for 'teaching practice' might be revisited if changes in performance instruments and quantities of lecturer assessments or the utilisation of teachers as mentors are introduced. Apart from a new fee structure for modules the issue of autonomy over particular budget items might be proposed. Grant, et al. (1979:252) points out that if flexible registration and evaluation practices are considered at some point this would require well designed procedures and forms in order to prevent chaos. Grant, et al. (1979:227) furthermore suggests that budgets should also provide for an increase in secretarial and printing services.

If a Faculty of Education changes to CBE and other faculties rendering a service to education do not, the new needs regarding your programmes would have to be negotiated. Grant, et al. (1979:227) propose that skilful leadership would be needed to negotiate with other faculties as well as with administrative departments and external assessors when CBE is newly introduced in a university and particularly the Faculty of Education. Managers in a faculty must monitor the progress of the implementation and keep stakeholders informed (State of Kansas, s.a.:10). The leadership of an institution should, in addition, address the issue of documentation and certification of competencies mastered by candidates (Catri, 2002:3).

### **3.3.2.2 Establishing a CBE oriented instructional management system**

At this stage in the design the new organisation of content in modules and new module titles have already been dealt with. Further changes could involve the possible restructuring of departments and the creation of documents that guide team teaching, (see Seidman, 1998:1) student support and CBE teaching-learning activities. Covey (1992:185) warns it takes tremendous commitment to overcome "...*the gravity of structures and systems based on old control paradigms*". It would, however, be necessary for a university to align its structures and systems with CBE perspectives. According to the experiences of Blunt and Cunningham (2002:127-137) implementation of CBE resulted in new structures for departments, namely, the Faculty of Education was re-structured into three 'programme-based departments' of "Post-graduate, Pre-Service and In-Service Studies". The Faculty of Arts grouped its programmes into three Schools: "Music, Languages

and Social Sciences and Humanities”. They continued to point out that such restructuring resulted in fewer directors than former heads of departments.

Apart from structures that play a role in instructional management, the features of CBE teaching-learning have consequences for instructional management. The change from a scientism epistemology to a more constructive one (Van Heerden, Myburg & Poggenpoel, 2001:158-159) means that knowledge is no longer understood as objective and de-contextualised and that constructivist learning involves experiential learning (Luckett, 2001:56). Experiential learning involves four stages of learning: “...*concrete experience, reflection, generalisation and testing*” and involve problem-based learning (focusing on real life context problems) and work-based learning (Davies & Pillay, 2000:197-198). Contextual variation is another important part of the learning experiences (Bowden and Marton, 1998:115) to promote transferability of learning. A new perspective of knowledge and learning is linked to a different role for the lecturer and learner: the lecturer in the role of facilitator and developer of thinking skills rather than transmitter, and students assuming more responsibility for their own learning (Venter, 2001:91). Lecturers should therefore be trained to understand how to manage their instruction in terms of the new teaching-learning perspectives as stated above.

In addition, the instructional management would have to accommodate CBE features such as providing learners with clear outcomes, support learners through feedback and resources for independent learning, do self-assessment, re-teach and require re-learning until mastery is achieved (Evans & King, 1994:13). Managing such instructional aspects would require documents with guidelines, questionnaires, acquisition of learning materials and managing time to assist individuals. Both individual lecturers and heads of departments would have a role to play in the management of the instructional environment by establishing files with all relevant produced documents (e.g. module descriptors, assessment policy and regulations, lecturers’ workloads, self-directed learning) for easy access by own and other members that might render a service to a department due to the interdisciplinary organisation of modules.

The issue of instructional management is very complex and could, according to the researcher, incorporate perspectives of quality assurance. Although not mentioned above, instructional management could involve periodic programme reviews, moderators, recognition and rewarding

of excellent teaching, analysis of examination results, questionnaires to obtain feedback from stakeholders, use and dissemination of course outlines and so forth.

### **3.3.2.3 Compiling bridging modules and material**

Unlike in developed countries where the majority of learners are prepared well enough for higher education (Hay and Marais, 2004:62), developing countries such as Namibia do not have an adequate teacher force to prepare learners well for higher education. According to the UNAM experience first year students lack the necessary discipline knowledge, English proficiency and academic skills to cope with the demands of higher education. This ill-preparedness is reflected by their grade twelve results that often do not meet the normal required university admission levels. The local political system however expects educational institutions to provide broader access and equity (Namibia Vision 2030, 2004:91). There is thus the need for bridging (also referred to as pre-entry, access or foundation) modules that would address the holistic needs of students and not merely their lack of subject knowledge (Hay and Marais, 2004:59,63, Du Plessis, Janse van Rensburg and Van Staden, 2005:868-869).

Some writers maintain that educational institutions carry some responsibility for promoting learning success for all (Spady, 1994a:9, Grant et al. 1979:221). Jessup (1991:3) also contends that the learner-centred focus of CBE requires institutions to support learner success. Other academics argue that it is not the responsibility of the university to address deficiencies caused by prior phases of the education system (Penington, 1994:71). Further criticism against the establishment of bridging courses is pointed out by Hay and Marais (2004:62), acknowledging Strydom (1997): As add-on courses the institution does not change but rather fit the student to the programme. Bridging courses are costly for both the students and the institution and typically do not earn subsidy or credits towards the qualification. Furthermore, some of the deficiencies cannot be corrected by a semester or even a year course.

From a perspective of programme design theory however, an analysis of the targeted learners and the compilation of a learner profile that would influence admission requirements and the design of the programme, is advocated (Blank, 1982:26, Breier, 2001:2, Rothwell and Kazanas, 1992:44). It thus appears that until the school system delivers well prepared learners, universities should attend to bridging courses in one way or another to support students. Research in South

Africa has shown that bridging courses enable more than fifty percent of such students to qualify for admission to university programmes (Hay and Marais, 2004:72, 74).

The point is that bridging is needed and creative ways of addressing students' needs via such courses as part of a qualification design or as pre-entry courses could be done. A CBE design and implementation framework needs therefore to include such a step where the nature and implementation of bridging courses are consciously deliberated upon.

#### **3.3.2.4 Identifying required teaching-learning resources**

The section above on 'instructional management' refers, as it indicates teaching-learning perspectives, e.g. self-directed learning and the necessity of adequate teaching-learning resources required by lecturers and students. Venter (2001:91) and Sullivan (1995:5-6) acknowledging the work of Watson, emphasise strongly that when organisations change to CBE they must be committed to providing adequate resources and training materials otherwise self-directed and experiential learning, amongst others, would be seriously hampered.

#### **3.3.2.5 Training staff in CBE theory and practices**

According to Argüelles and Gonzi (2000:27) problems of implementing CBE could always be related to the failure of training those involved with the development and implementation of a CBE system "*...as this approach is likely to be very different from their past educational training*" (Sullivan, 1995:5). This step accordingly advocates that lecturers should be aware of the CBE philosophy such as the epistemology that moves from 'knowing that' to 'knowing how' and 'why' (Luckett, 2001:55). Further aspects that the training should focus on are lecturers' expected roles according to CBE, for example, their facilitator role, their accountable instructional management role and their assessment role. Smith (1999:61) points out in this regard that the role of the lecturer as facilitator of learning opportunities results in a changed relationship between lecturer and students.

With so many changes from the established subject-based system, it is unavoidable that academic and administrative staff need an ambitious development programme, which requires development of skills in:

- *assessment*

- ❑ *working as a facilitator rather than instructor*
- ❑ *handling individuals or groups at different levels in the same classroom or workplace*
- ❑ *time management*
- ❑ *record keeping*
- ❑ *team teaching*
- ❑ *counselling and guidance*
- ❑ *industrial liaison* (Burke, 1989:129-130)

Grant, et al. (1979: 252) add to this list by mentioning training in the use of problem solving, practical assessment methods, use of games, case studies and simulations as these methods are typical of CBE teaching and assessment. More areas of training could be added to the list, especially for administrative staff, however the point of the necessity for training is clear.

### **3.3.2.6 Piloting the programme**

In accordance with Table 3.1 Blunt and Cunningham (2002:127-137) propose that new curriculum theories should be *piloted* as this provides for gradual evolution and the option to reverse decisions. At this stage of introducing a programme, the module descriptors, resources and staff were in place. The programme was advertised and many student applications could have been screened and admission tests of some sort performed. The possibility of having multiple registration opportunities could be considered, including online registration. The application of RPL (see Table 3.1, Section of ‘admission requirements’) constituted part of the registration process and would according to Jessup (1991:67) play an increasingly important role in the future as more adults returned to education or change careers.

McNeir (1993:1) emphasised that the assessment of competence and competencies were especially important for CBE quality and Kerka (2000:2) advocated integrated assessment that viewed competence as a complex combination of knowledge, attitudes, skills and values displayed in the context of task performance (see also Bowden, 2000:7; Toohey, et al. 1995:92).

### **3.3.2.7 Continuous evaluation of the programme quality and institutional environment**

This is the final programme step according to Table 3.1. It is typical CBE practice to continually assess the achievement of outcomes (Sullivan, 1995:5-6) and to interpret those achievements against quality criteria. This regular reflection on ‘how are you doing’ is also accepted in leadership and management theories. Covey (1992:275), for example, identifies the ‘principle of continuous improvement – sharpen the saw’ as one of the habits of effective people and leadership and the “driving force” of total quality management (Covey, 1992:250).

Bowden and Masters (1993:52) maintain that more definitive research would be necessary to prove or disprove the effectiveness of CBE. Through continuous evaluation of CBE programme design and implementation by institutions a contribution could be made towards this research about CBE effectiveness and feasibility. The synthesis framework of Table 3.1 advocates that this step involve the summative evaluation of both design and implementation aspects of a programme. The model proposes what aspects could be evaluated on a semester, annual and longer term basis. McCann, et al. (1998:201-207) suggest that a schedule could be compiled indicating when and how evaluation of aspects would be done. The module descriptors format (see Step 9 of Table 3.1) had already incorporated a date of next revision to assist staff in compiling such a schedule.

What the synthesis framework does not incorporate is reference to methods to be applied in evaluation exercises. According to McCann, et al. (1998:201-207) multiple evaluation methods should be used, e.g. such as self-evaluation, student surveys, alumni surveys, lecturer surveys and employer surveys. This range covers the issue of internal and external evaluations but could be extended to provide for formative and summative programme evaluations. The Population Health Directorate of Canada (1996:14-17) suggests that consideration must be given to survey questionnaires, telephone surveys, interviews, participant observation, analysis of programme documentation and non-traditional methods such as diaries or videos. Lecturers’ conversations with school staff during teaching practice and the principal’s report on each student furthermore reveal perceptions about the student teachers’ performances. Critical incidents often contribute to highlight possible deficiencies in programmes. Analysis of the quality of students’ practical assignments and lesson presentation marks could provide additional insights about students’ levels of competence and thus the programme’s effectiveness.

Gravett and Geyser (2004:142) advise that quality assurance of programmes should be done by an evaluation team. McCann, et al. (1998:201-207) suggest in addition that the programme review process should also be competency-based. The goal of the programme review thus would be to evaluate the effectiveness of the programme design and implementation in preparing graduates for beginning practice. According to the BJA Center for Program Evaluation in the United States (2005:2-7) formative and summative evaluations could be extended to include an international comparative perspective. One purpose of evaluation is to analyse the feedback gathered in order to refine design and implementation aspects of a programme. Like the synthesis framework, McCann, et al. (1998:201-207) propose that the evaluation findings and solutions decided upon to improve the curriculum should be shared with stakeholders.

### **3.3.2.8 Certifying students**

Neither the synthesis framework (see Table 3.1) nor the ADEd steps (see Appendix 4) proposes a further step that would deal with the final aspect of implementing CBE. In the researcher's view such a final step would be to 'certify students' and would reflect on the possible exit points with certification. Possible additional certification documentation would reflect the competencies addressed by a programme. Considering the focus of CBE programmes on competence, it makes sense that the certification should equally reflect this focus (Catri, 2002:3). Sullivan (1995:7) is also in agreement that certification should incorporate a statement that specifies the competencies that a qualified person is able to provide. One could imagine the advantages of such documentation for both the job applicant and the employer. Such additional documentation could, for example, utilise the DACUM charts developed during the 'situational analysis' that reflects the programme competencies in a condensed manner.

Bowden and Masters (1993:26) state that even 'units' within modules could be designed in such a way that they could be assessed and certificated. The researcher would not advise the official certification of units on both academic and administrative grounds. The assessment system to certify units would not be feasible and such a certificate would have rather little value for both student and employer. Even 'module certificates' might create more confusion than being helpful to employers, however adaptation of student progress documents could be undertaken to depict a students' level of competence if circumstances force a student to exit a programme temporarily or permanently.

### 3.4 EXPANDED CONCEPTUAL FRAMEWORK OF CBE DESIGN AND IMPLEMENTATION

Based on the before-mentioned theoretical perspectives (Section 3.3), the following Table 3.9 provides an expanded conceptual framework for teacher education programmes.

Table 3.9: **Expanded conceptual framework of CBE programme design and implementation**

<b>CBE DESIGN FRAMEWORK</b>
<p><b>Step 1: Managing the change to a new educational philosophy</b></p> <ul style="list-style-type: none"> <li>• The Faculty selects a task force and programme co-ordinator</li> <li>• Task force examines the philosophy and characteristics of CBE</li> <li>• Analyse examples of CBE programmes and research findings</li> <li>• Obtain a CBE programme design and implementation framework</li> <li>• Meetings with internal stakeholders about CBE: top and faculty management, lecturers, students, administrative staff</li> <li>• Address fears and conflicting perspectives such as goals of higher education, academic freedom and accountability, learning theories and new epistemologies, responsiveness, graduateness, citizenship and lifelong learning</li> <li>• Create CBE guideline documents regarding aspects such as student support, setting performance tests, module descriptor templates, assessment and assessment records</li> <li>• Identify actions to manage individual change, e.g., how the new system improves on the current one</li> <li>• Identify actions to manage institutional change, e.g., do not polarise supportive and opposing views, reflect on the purposes of the African university, obtain the support of departmental heads and dean, conduct strategic planning, involve some external stakeholders, discuss the scientism perspective, allow adequate time for meetings, analyse quality (teacher) education, select suitable persons to conduct discussions</li> </ul> <p>Sources: Kennedy, 1993:7; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin &amp; Kota, 1998:11-23; Burke, 1989:129; Grant, et al., 1979:237; Department of Education, S.A.:1997:8; Doll, 1996:307, 314, 319; Blunt and Cunningham, 2002:133; Lockett, 2001:55; Abdall-Haqq, 1998:1; Adobe go live,s.a.:1.</p>
<p><b>Step 2: Drafting a programme development timetable and action plan</b></p> <ul style="list-style-type: none"> <li>• Task force works backwards from the intended implementation date and drafts a timetable to meet deadlines</li> <li>• Compile an action plan based on both the design and implementation steps</li> </ul>



Sources: Kennedy, 1993:7; Foxcroft, Elkonin & Kota, 1998:11-23.

### **Step 3: Conducting a situation analysis**

- Analyse *international* level factors:  
Consider effects of globalisation; define quality education; reflect on responsiveness versus graduateness; identify massification implications; discuss higher education concerns, goals and future trends; consider the role of the African university; reflect on a model underpinning occupational competence roles analysis and whether it blends higher education, occupational and general education goals; take note of mode 1 and 2 forms of knowledge production; cover global academic and indigenous knowledge; include generic and other competencies; consider disciplinarity, inter- and transdisciplinarity; define lifelong learning development; reflect on academic freedom and public accountability; describe CBE limitations and benefits; consult CBE research findings; examine constructivist knowledge production
- Analyse *national* level factors:  
Consult relevant national education statistics to determine the need for particular teachers and qualifications; clarify the role of the NQA; consult NQA teaching profession standards; observe national higher education planning and directives, e.g., Namibian Vision 2030; analyse the requirements for teacher licenses and performance appraisals; conduct an occupational analysis with stakeholder input, e.g., DACUM workshops; create a competency profile (indicating priorities) for entry-level / expert professionals; consider implications of multicultural democracy; analyse the profile of the targeted student body, e.g., language skills, values, learning styles, subject knowledge levels and motivation; relate equity and bridging courses; define national and global citizenship; consider requirements to deliver the programme via distance and online education; monitor possible duplication of programmes in other local institutions
- Analyse *institutional* level factors:  
Conduct a strategic planning for the faculty; reflect on the contribution of the humanities; calculate implications for workloads and workload policies; reflect on the financial autonomy and financial management of the faculty; determine the need for bridging courses and a RPL system; appraise the adequacy of facilities; reflect on ways to support students; reflect on ways to develop and support staff; revisit the registration management; identify internal and external stakeholders to be involved; decide on methods to gather data from stakeholders, e.g., nominal group technique, search conferences, functional analysis, interviews, critical incident technique, surveys, delphi, performance assessment observation, questionnaires, advisory groups and the DACUM; analyse the degree of accreditation of schooling with university system; consider alternative departmental structures; design ways to ensure quality assurance; consider strategies for a staff and programme development

- Analyse *module* level factors:  
Consider which modules apply discipline, inter- and trans disciplinary structures; identify how modules incorporate generic competencies; monitor possible duplication of modules within the institution; standardise the length of modules; revisit the organisation of workplace training logistics; reflect on availability of appropriate workplace training sites

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44,46,53-54,74; Kennedy, 1993:7; Fletcher, 1995:67; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota,1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11; Mostert, 1985:18, 25-29; Dubois,1993:23; Carl,1995:97-98; Doll, 1996:152,172-3; Luckett, 2001:55; Gravett and Geysler, 2004:152; Pretorius, 2001:74-75; Ministry of Education of Namibia, 2005; Breier, 2001:2; Boschee & Baron, 1993:20; AAU, 2001:1; Department of Employment, Education and Training, Australia, 1990:6; NCRVE MDS-777, s.a.:1; Harrisburg Area Community College, 1999:1; DACUM Waste Management Specialist, 1995:1; Jessup, 1991:27; Department of Education of S.A., 1998:68-69; Burke, 1989:190; California Commission on Teacher Credentialing, 1997:1; Chappell and Melville, 1995:52-60.

#### **Step 4: Finalising the title, level, duration and code of the qualification**

- Determine what type of qualification would address the identified needs
- Observe NQA regulations regarding qualification levels and duration
- Specify the NQA and institutional levels and codes

Sources: Foxcroft, Elkonin & Kota,1998:11-23; SENA, 2002:11.

#### **Step 5: Formulating the rationale**

- The rationale especially addresses the identified national needs and therefore influence the exit outcomes
- Address a range of occupational competence roles such as standard occupational roles, management roles, job environment roles and general education roles
- Provide for teacher attrition via related career options
- Provide for accreditation for further studies
- The rationale relates to the mission of the faculty
- Avoid duplication of other programme purposes

Sources: Foxcroft, Elkonin & Kota,1998:11-23; Harrisburg Area Community College, 1999:1; Gravett and Geysler, 2004:152; Van Niekerk & Killen, 2000:91; Boschee and Baron, 1993:49; Geysler and Wolhuter, 2001:95; Chappell and Melville, 1995:52-60.

### **Step 6: Formulating the exit outcomes of the programme**

- Distinguish between exit and enabling outcomes: exit outcomes define roles and specify mainly competencies, not knowledge and traits
- Observe a model for identifying competence roles: the spectrum of outcomes covers standard occupational roles, management roles, job environment roles and extend to general education and general employment roles that would include personal and interpersonal development, values and attitudes, citizenship, generic employability skills, local and international knowledge and skills, community development agent, emotional intelligence...
- Outcomes address future oriented needs as well
- Outcomes address related career path requirements
- Outcomes address preparation for further education
- Observe the local NQA minimum standards and requirements and compare it to the DACUM results of the situation analysis
- Consult international standards and exercise academic freedom to add outcomes for diversity or depth
- The formulation of exit outcomes incorporate verbs expressing observable behaviour rather than conditions and assessment criteria
- Be aware of the important role of verbs in outcomes

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; Fletcher, 1995:67; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11; Carl, 1995:101-107; Gravett and Geysler, 2004:153; Spady, 1994:19,49-51; York Technical College, 2001:ch2,3:12,6:17; California Commission on Teacher Credentialing, 1997:5; Breier, 2001:15,31; Marsh, 1997:69-76; Boschee and Baron, 1993:41; Jessup, 1991:27; Department of Education, S.A.,1998:41-42; Sultana, 1995:215-228; Ryan and Martens, 1989:5; Report of the National Standards and Guidelines for Initial Teacher Education Project, 1998:9-18; Conrad & Haworth, 1990:250-253; Knight, 1995:26-32; Covey, 1992:250-252.

### **Step 7: Determining the admission requirements**

- A team revisit traditional admission criteria and reflect on the purpose thereof
- Consider the articulation between the schooling and higher education system
- Consider the targeted learner profile compiled during step three (situational analysis)
- Specify academic and occupational pre-requisites such as physical traits or abilities, previously learned skills, previously learned knowledge and previously acquired attitudes in terms of quality assurance
- Consider the need for and implementation consequences of aptitude, language proficiency or other tests
- Determine the permissible maximum load in the case of *employed* students

- Bear in mind equal access policies, including gender and disadvantaged equity
- Consider admission procedures that might accommodate multiple entry points in terms of time, locality and mode of registration.
- Address planned maximum total of students and rules in case of over subscription.
- A team reflect on RPL models and develop the prior learning recognition system
- Consider the need for and nature of possible bridging courses related to admission criteria

Sources: Foxcroft, Elkonin & Kota, 1998:11-23; Geysler, 2001:31,35; Jessup, 1991:60-62,67; Breier, 2001:4,5,18; Blank, 1982:44-52; Gravett and Geysler, 2004:126-133.

### **Step 8: Selecting the delivery mode**

- Decide whether the programme will be offered on a full time, a distance or an online basis or a combination of these modes

Sources: Fletcher, 1995:67; Foxcroft, Elkonin & Kota, 1998:11-23; Westraad, 2003:9-23.

### **Step 9: Compiling module descriptors and module outlines**

- Monitor the horizontal (scope) and vertical (depth) dimension of the outcomes of step six above
- Use a matrix to monitor the incorporation of competencies in various modules
- Design a module descriptor template which includes aspects such as module title, code, admission / pre-requisites, total hours / contact hours per week, credit value, NQA level, lecturer, course description, exit outcomes, learning outcomes, course assessment, prescribed learning material, course requirements and expectations, equipment to be bought, additional costs, next revision date.
- Module descriptors include comprehensive, coherent knowledge and traits and attitudes to develop specified outcomes
- Indigenous knowledge complements universal knowledge
- Be aware that the levels of knowledge, traits and attitudes match the intended (e.g., beginner practitioner) qualification level
- Consider the role of the humanities in developing general life roles, multicultural democracy, lifelong learning and generic competencies
- Verbs are carefully selected as this reflects learning domains and experiences
- Allow lecturers freedom of choice in terms of having 'performance criteria' and 'range statements'
- Group performance outcomes, observe competence clusters and identify units within modules
- Sequence outcomes and units according to logical learning perspectives
- Module descriptors for workplace learning (teaching practice) are attended to

- Module outlines match time available with specified outcomes and reflect possible overloading
- Module outline verbs reflect the theoretical (T) or practical (P) learning and assessment

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; Fletcher, 1995:67; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Lyon, 2003:5-11; Killen, 1999:9; Smith, 2005:3-4; Aguinis and Kraiger, 2005:1; Cherniss, 2004:1-2; McCann, Babler and Cohen, 1998:201; Jessup, 1991:32-33,37; Fletcher, 1998:12; Burke, 1995:250; Smith, Marriage and Gillespie, 1994:84; Purdue University Calumet, 2003:3,6-7; Doll, 1996:183; Public Service Commission of Canada, 1998:2-6; Blunt and Cunningham, 2002:127-137.

### **Step 10: Establishing the broad programme structure**

- Standardise modular length for semesters
- Design the programme structure in terms of scope and sequence of modules per semester
- Relate the sequence of modules to possible prerequisites
- Consider differentiation in terms of weight / periods per module
- Indicate core and elective modules to suit career interests / specialisation
- Use academic freedom to create core and elective modules beyond NQA specifications
- Consider if modules could serve in other programmes too and the timetable implications of that
- Reflect on titles for modules: some could reflect more marketable titles
- Indicate work-based learning modules (teaching practice)
- Ensure the programme meets the required NQA hours and other directives
- Consider multiple exit points
- Consider phasing in of the new programme and phasing out options

Sources: Kennedy, 1993:7; Fletcher, 1995:67; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11; Posner, 1992:10; Burke, 1995:171.

### **Step 11: Developing the assessment regulations and instruments**

- Keep in mind that assessment policies and procedures should be feasible, credible and reliable to ensure quality
- Reflect on the role of continuous assessment towards quality
- Consider the admission percentage to examinations
- Determine the passing grade for theoretical and practical tests

- Understand that passing of demonstrations of competence require passing grades on a criterion-referenced basis and not on an aggregate score
- Describe the re-testing policy per module
- Consider the possible use and feasibility of assistant markers
- Clarify the role of non-grading tests and feedback
- Clarify the role of self-assessment and peer assessment
- Design assessment records that could accommodate re-test and non-grading results
- Update computer software if necessary to handle new assessment regulations and forms
- Specify the weight of different assessments towards the final mark, e.g. shorter / longer tests and assignments contribute different weights towards the admission mark
- Specify the weight of continuous and summative assessment towards the final mark
- Pay special attention to the work-based performance and portfolio assessment
- Revisit promotion rules and the contribution of teaching practice towards promotion
- Module descriptors, module outlines and performance checklists guide students regarding theoretical and practical assessment regulations
- Clarify regulations regarding internal and external moderators
- Specify regulations regarding the evaluation of assessment results by departments
- Compile some performance instruments and written tests per module
- Compile guidelines for assessing teaching practice lessons
- Revisit the need for supplementary examination papers
- Consider the assessment implications of a Namibian teacher licensing system

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1,3,6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11; Grant, et al. 1979:141,152; Bowden and Masters, 1993:86; University of Northern Iowa, s.a.:4-5; Toohey, et al.,1995:104; Armstrong, 1997:4; Maxwell, 1997:6; Ling, 2000:3; Killen, s.a.:14-15.

### **Step 12: Obtaining programme approval from key stakeholders**

- Identify who and how many external stakeholders verify the details of the programme, e.g., the NQA, Teacher Unions and principals
- Consider the method(s) to be applied to verify the programme
- Faculty considers external stakeholders comments and finalise the details of the programme
- Formal NQA recognition of the qualification is obtained
- Senate approval is obtained

Sources: Kennedy, 1993:7; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; NQA of Namibia, 1998:1-19.

## **CBE IMPLEMENTATION FRAMEWORK**

### **Step 13: Leading and managing administrative changes**

- The dean and departmental heads reflect on leadership and management functions
- Revisit the policy regarding lecturers' compulsory office and consulting hours in order to provide more individual / small group tutoring
- Integrate the increase in instructional management hours due to meetings, individual tutoring, scanning non-grading tests, marking re-tests, admission test marking, etc. into the workload formula of lecturing staff
- Ensure administrative staff understand the new assessment records in terms of re-testing and non-grading columns
- Align the recognition and reward system with effective CBE practices, including the official student feedback form on lecturers performance
- Revisit registration fees to cover admission tests, possible tutor assistants, RPL activities, multiple registration ...
- Revisit the academic and financial autonomy of a faculty
- Motivate the need for changes to workload policy
- Negotiate the type of required input from other faculties regarding your particular programme
- Consider the introduction of a school-based mentoring system
- Formulate a policy regarding the contracting of teachers for teaching subject methodologies
- Formulate a policy regarding the goals of subject methodology teaching
- Consider ways to support departmental heads with their administrative duties
- Create plans for inter-faculty collaboration

Sources: Blank, 1982:26; Fletcher, 1995:67; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; VETNET Symposium, 2000:3; Burke, 1989:146; Wolf, 1995:131; Spady, 1994:102; Department of Education of South Africa, 1997:34; Sullivan, 1995:6; State of Kansas, s.a.:8,10; Catri, 2002:3; Grant, et al. 1979:227, 252.

### **Step 14: Establishing a CBE oriented instructional management system**

- Discuss possible restructuring of departments in the faculty e.g., programme-based structures
- Disseminate documents with guidelines for team teaching, student support,

- setting of papers, giving feedback and CBE teaching-learning characteristics
- Create or restructure committees to promote departmental collaboration
- Revisit the nature and tasks of a unit to organise the logistics of work-based learning / teaching practice
- Assign new duties to staff to promote instructional management
- Indicate what type of instructional management documents must be available on file per department

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; Foxcroft, Elkonin & Kota, 1998:11-23; Seidman, 1998:1; Blunt and Cunningham, 2002:127-137; Van Heerden, Myburg & Poggenpoel, 2001:158-159; Luckett, 2001:56; Davies & Pillay, 2000:197-198; Bowden and Marton, 1998:115; Venter, 2001:91; Evans & King, 1994:13.

### **Step 15: Compiling bridging (pre-entry) modules and material**

- Against the background of learner characteristics and admission criteria develop possible needed bridging modules and materials as separate modules or to be part of relevant modules

Sources: Hay and Marais, 2004:59-75; Du Plessis, Janse van Rensburg and Van Staden, 2005:868-869; Namibia Vision 2030, 2004:91; Spady, 1994:9, Grant et al. 1979:221; Jessup, 1991:3; Penington, 1994:71; Blank, 1982:26, Breier, 2001:2, Rothwell and Kazanas, 1992:44.

### **Step 16: Designing a timetable**

- The programme timetable reflects the allocated weight per module
- Provision is made for core and electives
- Provision is made for work-based learning (teaching practice)
- Synchronise the programme timetable with the broader institutional timetable if students are involved in both types of timetables
- Inform other faculties well in advance about students' absence from lectures while doing teaching practice

Sources: Foxcroft, Elkonin & Kota, 1998:11-23; SENA, 2002:11; Westraad, 2003:9-23.

### **Step 17: Appraising the required physical facilities**

- Are there adequate lecturing and tutoring venues?
- Consider also what venues can be used for meetings.
- Is there a need for a computer, simulation (micro teaching) or other type of laboratory?



- Are enough offices available for possible additional staff?

Sources: Foxcroft, Elkonin & Kota, 1998:11-23; SENA, 2002:11.

### **Step 18: Appraising the need for staff**

- Match the expertise and interests of available faculty staff with the programme needs
- Determine whether the workload of individual lecturing staff members could accommodate the new programme needs
- Appraise the need for additional administrative staff if re-application of staff is not enough
- Consider the benefits and limitations of contract staff, particularly the contracting of teachers for subject methodologies

Source: SENA, 2002:11.

### **Step 19: Identifying required teaching-learning resources**

- Consult module descriptors and compile a list of teaching-learning resources required
- Identify textbooks and other learning resources to promote self-directed and experiential learning
- Consider transport needs for lecturing staff during teaching practice
- Select schools involved in the teaching practice that are providing an adequate learning environment for students, since not all school do
- Consider the introduction of teachers trained as mentors for students
- Consider the effectiveness of the current Internet bandwidth of the university
- Provide lecturing staff with computers and Internet access
- Consider the development of an online system

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11; Venter, 2001:91; Sullivan, 1995:5-6.

### **Step 20: Drawing up a budget**

- Analyse the financial implications per step for students and the institution
- Consider phasing in and phasing out costs

Source: Foxcroft, Elkonin & Kota, 1998:11-23.

**Step 21: Advertising to procure students and staff**

- Employers, parents and donors need to understand the new type of education and the expected quality of the graduate
- Advertise internally among other faculties for the needed expertise
- Advertise externally for administrative and academic staff according to the determined needs
- Market the new qualification through various means
- Indicate in advertisements possible additional costs, related career development options and the RPL possibility
- Adapt yearbook to reflect programme and policy changes

Source: Foxcroft, Elkonin & Kota, 1998:11-23.

**Step 22: Selecting staff and acquiring teaching-learning resources**

- Interview lecturing and administrative staff
- Acquire the previously identified resources (see step 19)
- Develop learning materials / packages
- Reproduce module descriptors and learning materials
- Reproduce student feedback questionnaires
- Develop some performance and written tests

Sources: Blank, 1982:26; Fletcher, 1995:67; Westraad, 2003:9-23.

**Step 23: Training staff in CBE theory and practices**

- Lecturing staff need to understand the CBE philosophy and characteristics, their expanded facilitation role as well as their instructional management role, the assessment system, team teaching, etc.
- Administrative staff need to understand the new policies, procedures and documents

Sources: McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; Argüelles and Gonzi, 2000:27; Sullivan, 1995:5; Lockett, 2001:55; Smith, 1999:61; Burke, 1989:129-130; Grant, et al.1979: 252.

**Step 24: Piloting the programme**

- Consider multiple registration opportunities
- Register students and apply the developed RPL system (cf. step 7)
- Clarify for students the programme features and their expected roles
- A monitor team, e.g. the development task force and project co-ordinator, are

appointed to monitor the implementation

- Monitor availability and effectiveness of learning materials
- Monitor student support plans
- Monitor team teaching and workload of staff
- Monitor the level of students taking responsibility for their own learning
- Use performance assessment instruments during instruction
- Reflect on organisation and effectiveness of workplace competence assessment
- Monitor problems experienced with the assessment policy
- Faculty management and staff apply the new policies and practices decisively
- Require from departmental heads to evaluate the instructional management effectiveness
- Students evaluate the lecturers' performances via questionnaires that reflect CBE oriented perspectives

Sources: Blank, 1982:26; Kennedy, 1993:7; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; Westraad, 2003:9-23; Lyon, 2003:5-11; Blunt and Cunningham, 2002:127-137; Jessup, 1991:67; McNeir, 1993:1; Kerka, 2000:2; Bowden, 2000:7; Toohey, et al. 1995:92.

#### **Step 25: Continuous evaluation of the programme quality and institutional environment**

- Appoint a quality control / evaluation team in the Faculty of Education
- Conduct both formative and summative evaluation
- Evaluations often move beyond judging contextual factors to consider international developmental trends as well
- Different evaluation methods are applied: survey questionnaires, telephone surveys, interviews, participant observation, analysis of programme documentation, reports on teaching practice students, critical incidents and non-traditional methods such as diaries or videos.
- *Semesterly*: staff evaluate scope and depth of course outcomes; staff evaluate assessment instruments; students evaluate lecturing staff; faculty management analyses enrolment and assessment data;
- *Annual / bi-annual* evaluation: programme outcomes; enrolment data; final assessment results; evaluation of assessment policy and procedures; external review of programme structure and module descriptors; incorporation of existing modules into other programmes
- Every *three to five years* evaluation: monitor the institutional effectiveness in terms of the mission; goals; programme quality; quality assurance unit and policy; administrative policy and structures' effectiveness; staff and student support; growth in student numbers;

- Use feedback to refine aspects of the programme
- Inform stakeholders of successes and changes to a programme

Sources: Blank, 1982:26; Rothwell and Kazanas, 1992:44; Kennedy, 1993:7; McCann, Babler and Cohen, 1998:197-207; Foxcroft, Elkonin & Kota, 1998:11-23; York Technical College, 2001:ch 1-6; SENA, 2002:11; Westraad, 2003:9-23; Lyon, 2003:5-11; Sullivan, 1995:5-6; Covey, 1992:250,275; Bowden and Masters, 1993:52; The Population Health Directorate of Canada, 1996:14-17; Gravett and Geysler, 2004:142; BJA Center for Program Evaluation in the United States, 2005:2-7.

### **Step 26: Certifying students**

- Consider multiple exit points with certification
  - Add a refined DACUM chart to certification documents to reflect competencies
- Sources: Catri, 2002:3; Sullivan, 1995:7; Bowden and Masters, 1993:26.

Table 3.9 reflects the integration of analysed programme examples (cf. Table 3.1) and further theoretical perspectives. The expanded conceptual framework provides further details for some steps and adds two additional steps, namely that of ‘compiling bridging courses and materials’ and ‘certifying students’. The steps appear linear but the cohesion between them requires a cyclical process. Some steps should logically be addressed before others but especially the *implementation* oriented steps could be attended to in a more flexible manner.

It makes sense, for instance, to firstly establish a task force to attend to the development of a programme according to a time schedule. The situational analysis examines the internal and external educational environment to determine the current conditions and needs and the variables that would impact on the programme design and implementation. Therefore it occurs early in the framework. The rationale and exit outcomes focus on what the programme should achieve, bearing in mind the discovered needs. The ‘admission requirements’ address political aspirations of access while striving for quality and feasibility and need to be considered before module descriptors are developed. Module descriptors reflect the different occupational roles and academic development goals, thus attending to both competence and knowledge. Once module descriptors are developed an accurate programme structure can be finalised, reflecting core and elective modules. Assessment and promotion regulations can be specified if module descriptors content and the programme structure are determined. The final design step ensures that relevant

stakeholders approve the final design before a university considers the programme and before implementation is embarked upon.

Table 3.9 reflects that the first implementation oriented step requires that institutional leaders and managers need to manage administrative changes according to CBE requirements. Once the institutional policies are addressed the departmental and individual management of instruction can be developed. A flexible sequence is possible when the steps regarding ‘timetable design’, the ‘appraising of physical facilities’ and the ‘need for staff’ is addressed. These three steps should, however, consider the determined maximum enrolment figure as specified under ‘admission requirements’. It could be argued that the ‘drawing up a budget’ could be moved three steps further to before ‘piloting of the programme’ to reflect more accurately costs regarding the ‘advertising for’ and ‘selection of staff’, acquiring of teaching-learning resources’ and ‘staff training’. This move would depend upon the perceived function of a budget. It is sound that ‘continuous evaluation’ regarding several factors is conducted after the pilot and the ‘certification’ of students is aligned with CBE perspectives.

The above 26 steps might thus guide designers as to how to systematically design a CBE programme to the point of implementing an approved programme. The design and implementation steps are numbered consecutively to reflect the cohesion of the two components.

Although a systematic design implies a logical sequence, the interdependence among steps and flexibility of the process should be recognised. It could be expected that the amount of time and energy involved in introducing a first CBE programme would be far greater than introducing following CBE programmes.

### **3.5 SUMMARY**

Chapter Three addressed the second sub-question of the research, namely, ‘What constitutes a CBE design and implementation framework of a teacher education programme?’

Ten *programme* examples were analysed and a *synthesis design and implementation framework* was created comprising 24 steps (cf. Table 3.1). A further expanded conceptual framework was

developed, defining some steps more accurately and adding two steps (cf. Table 3.9). The expanded conceptual framework steps addressed all apparent CBE and programme design and implementation theory and sequenced it in a logical way. Although the labels of steps might appear similar to subject-based labels the activities per step reflects how CBE perspectives are accommodated. Slightly more flexibility was observed regarding the sequence in which implementation steps could be addressed than for the design steps.

The data of this chapter is brought to bear in Chapter Six and Seven where the ADEd programme is critically analysed and recommendations about teacher education programme design and implementation at UNAM is made.

The next chapter elaborates on the research methodology of the study.

## **CHAPTER 4: RESEARCH METHODOLOGY**

### **4.1 INTRODUCTION**

The professional educator needs the necessary knowledge and skills to make effective educational decisions. Although there are other sources of knowledge, such as experience, authority, and tradition, scientific knowledge about the educational process makes the most valuable contribution to decision making in education (Ary, Jacobs and Razavieh, 2002:7). The educational research process could thus establish this type of scientific knowledge to support decision-making. Research includes distinct characteristics such as the systematic investigation of a question or problem, the use of reliable and valid methods of collection and interpretation of data and the adherence to ethical standards (Leedy, 1997:5).

According to Sarantakos (1998:16) social research, and therefore educational research, may aim to achieve general goals (i.e., understanding for its own sake), theoretical goals (verification, falsification, modification or discovery of a theory), pragmatic goals (solution of social problems), or political goals (development of social policy, evaluation of programmes and practices, social criticism, social change and reconstruction, empowerment and liberation). This research aimed to improve the design and implementation practices of CBE programmes at the University of Namibia and more specifically, teacher education programmes. According to the above classification of research aims, this study has mainly theoretical goals since it verifies and modifies the design and implementation of CBE programmes.

This chapter explains the research approach, the type of research and methodology that have been selected to address the research problem. Basically the essence of the research is to develop a CBE design and implementation framework for a teacher education programme at UNAM. To this end the characteristics of CBE were identified through a literature review and critically discussed to determine the appropriateness of CBE for teacher education. Ten CBE programme design and implementation frameworks were analysed to create a synthesised design and implementation framework which was monitored for incorporating CBE features. The synthesised framework (cf. Table 3.1) was expanded through further literature study (cf. Table 3.9) and finally validated through an international survey. This validated framework was applied

to the ADEd case in order to determine if changes should be made to it for the local UNAM context. Both the original ADEd methods and the post-hoc methods of validating the designed CBE framework are evaluated. Data gathered from the literature review, document analysis and questionnaires were interpreted with the aim to discover relationships and patterns regarding programme design and implementation frameworks suitable for teacher education. The chapter further addresses the validity and reliability measures of the selected data collection methods, data analysis as well as the assumptions and limitations of the research.

#### **4.2 UNIT OF ANALYSIS: ADVANCED DIPLOMA IN EDUCATION**

Research should have a specific focus and thus the unit of analysis should be clearly defined because the exactness of the research problem impacts on other aspects of the research such as its scope, depth and methods of gathering data (Best and Kahn, 1993:39). To get an exact indication of the nature of the unit of analysis the researcher must determine whether the problem relates to individuals, groups, ideas, ideologies, attitudes and opinions, structures and processes, methods and practices, and causes and effects of social events (Mouton and Marais, 1988:38-39; Ary, et al. 2002:53). In this research the unit of analysis involves the design *concept* and implementation *practices of* ADEd as a CBE oriented programme.

To put the ADEd as unit of analysis in perspective the following could be noted. Since Namibia became independent in 1990 the Faculty of Education in UNAM has continuously adapted the South African inherited secondary teacher training qualifications and phased out the primary teacher training programmes. By 1996 a four-year B. Ed degree replaced all previous secondary teacher-training qualifications except the Postgraduate Diploma (Faculty of Education Management Committee minutes, 1998:3). The traditional B. Ed (honours) was also abolished as in some African countries and as far as UNAM was concerned, students who completed the said four-year B. Ed degree would be admitted to UNAM Magister studies. This created a void in the national qualification structures since honours degrees were abolished but there was no alternative for existing teachers to upgrade their qualifications except to enrol for Magister studies that were only offered on a full time basis at UNAM in Windhoek. The Advanced Diploma in Education bridged this gap in upgrading teachers' qualifications but could not be labelled a 'degree'.



The ADEd was offered over two years (242 contact hours) in 1998 – 1999. The programme consisted of a three-day ‘block session’ at the start of each year and a meeting on roughly every third Saturday. This system allowed students from outside Windhoek to attend courses as well, since that was an issue at the time. The ADEd rationale addressed national teaching challenges in the areas of *subject knowledge* to support teaching according to the then recently introduced British (H)IGCSE curriculum; to promote *learning-centred methods* and improve *school and classroom management* (Engelbrecht, Hope, Katzao, Keyter, Mostert and Scott, 1997:1-6). The programme thus included subjects that focus on subject knowledge, learner-centred practices, leadership and management issues, English proficiency development, professional development issues and educational research (cf. Appendix 7).

Students were all practising teachers with the required three years of teaching experience and a four year post grade 12 teacher qualification, for example, a four year HED Sec Diploma (Higher Education Diploma: Secondary School) Just over a hundred applicants responded to the advertisement of the course but eventually only 15 candidates qualified in terms of the criteria and the English proficiency test. Fourteen students remained in the course as one dropped out after the first block session. The Saturday timetable included one assessment session and four subject sessions with an hour lunch break. In total, students had to attend fourteen Saturday sessions apart from the start up three-day block session at the beginning of each of the two years. The first hour of the block sessions served to introduce students to the CBE features of the course, such as the subject content selection, organisation of module content, assessment policy issues and expected role of students during contact sessions.

It is against this background that this research investigates and analyses the design and implementation framework of ADEd as an artefact in time in order to compile a context-related CBE design and implementation framework for possible use at the University of Namibia.

### **4.3 RESEARCH PARADIGM**

To understand the characteristics of different research paradigms it is necessary to link the paradigms to philosophical schools of thought. Lincoln and Guba (1990:15) describe a paradigm as a world view, a set of metaphysical beliefs about reality and methods for knowing reality.

### ***Types of research paradigms***

Mertens (1998:7-15) identifies three major paradigms of research, namely, the *positivist* paradigm, the *interpretive* and the *emancipatory / critical* paradigm. According to Ary, Jacobs and Razavieh (2002:22) positivists believe that general principles or laws govern the social world as they do the physical world and therefore gathering of data with objective techniques are emphasised. It is therefore understandable that concepts such as ‘experimental’ and ‘quantitative research’ are linked to the positivist paradigm. The countermovement to the ‘quantitative’ paradigm, established by such authors as Comte, Mill, Durkheim, Newton, and Locke promoted a more interpretive / ‘hermeneutic’ research (Creswell, 1994:4; Mertens, 1998:11-12). The interpretive paradigm refers to contextual research with less concern for discovering universal patterns of human behaviour but rather focus on a subjective understanding of the meaning of human experience within real-life settings through inductive inquiry (Creswell, 1994:145; Ary, et al. 2002:22-23). The interpretive paradigm thus incorporates qualitative research types (Mertens, 1998:372). In the third paradigm, *critical research*, social institutions such as educational institutions, are criticised for the way they reproduce social and cultural transformation. Issues such as privileges, power, equality, discrimination and minorities are investigated. The critical research includes critical theory, feminine, race and transformative research (Mertens, 1998:15).

### ***Paradigm of this research***

According to Creswell (1994:4) a paradigm is composed of three philosophical assumptions: the *ontological*, the *epistemological* and the *methodological* question. These three assumptions direct a researcher’s thinking and actions. This research might be typified as interpretive research: Seen from an ontological perspective the ADEd programme is a subjective constructed reality. From an epistemological perspective the ADEd programme was analysed post-hoc and qualitative methods such as questionnaires and documents were utilised. As this research qualifies as qualitative the features of qualitative research are briefly investigated.

### ***Features of qualitative research***

The term qualitative research refers to a “...*variety of educational approaches variously labelled as ethnography, naturalistic inquiry, case studies, fieldwork, field studies, and participant observation*” (Ary, Jacobs and Razavieh, 2002:421). Sarantakos (1998:46) and Mertens

(1998:11) emphasise that qualitative research involves an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of phenomena in terms of the meanings people bring to them.

The elaborations on the features of qualitative research of Patton (in Sarantakos, 1998:47) and Ary, et al. (2002:426) could be summarised as follows: Qualitative research involves a *naturalistic inquiry* where the researcher uses *inductive analysis* to *discover important categories*. The inquiry is *holistic*, in that the whole phenomenon under study is understood as a complex system that is more than the sum of its parts, while qualitative data entails *detailed, thick descriptions*. Furthermore, the researcher has *personal contact* with the phenomenon and the people under study. Attention is given to *process and change* since each case is *special and unique* while findings are interpreted in a *social, historical and temporal context*. The stance of the researcher is *empathetic neutral* thus not overly objective or subjective with the implication that the research design is *flexible* and can be adapted as understanding deepens.

In addition to the above features of qualitative research, Creswell (1994:145) emphasises the following characteristics of it: Qualitative researchers are concerned primarily with *process*, rather than outcomes or products. Qualitative researchers are interested in *meaning* – how people make sense of their lives, experiences and their structures of the world. The qualitative researcher is the *primary instrument* for data collection and analysis. Data are mediated through this human instrument, rather than through inventories, questionnaires, or machines. Qualitative research involves *fieldwork*. The researcher physically goes to the people, setting, site, or institution to observe or record behaviour in its natural setting. Qualitative research is thus *descriptive* in that the researcher is interested in process, meaning, and understanding gained through words or pictures. The process of qualitative research is *inductive* in that the researcher builds abstractions, concepts, hypotheses, and theories from details.

Against the features listed above, *this study* might qualify as *qualitative research* because it investigates the holistic details of a real world system or case, where the researcher was part of the social context, involved in the process of planning and implementing of a competency-based teacher education programme. The study also demonstrates further qualitative features such as

describing reality as it is, aims at theory building, is interested in how things happen, and employs an inductive approach and low levels of measurement.

There are however different types of qualitative research designs and the particular one applied to this study needs to be elaborated upon.

#### **4.4 RESEARCH DESIGN**

It has already been indicated that this study qualifies as qualitative research and therefore the ADEd programme frameworks will be analysed and interpreted in terms of patterns and relationships regarding ‘design and implementation steps’.

##### **4.4.1 Qualitative research designs**

Three types of qualitative research designs need to be distinguished here, namely *evaluation* research, *ethnographic* research and *case studies*, so as to justify the selection of a case study design in this study. A brief description of these three research designs follows.

##### ***Programme evaluation research design***

Evaluation research is a form of applied research, which by nature aims to search for solutions to problems, assess the significances of existing policies and practices and evaluate the need for new approaches and programmes (Sarantakos, 1998:16). The goals of evaluation research typically are:

- (a) *To discover gaps in services*
- (b) *To predict whether a planned programme will be successful.*
- (c) *To assess the quality and effectiveness of a programme*
- (d) *To establish whether a programme is cost effective*
- (e) *To identify ways of improving the effectiveness of an existing programme*

(Sarantakos, 1998:16; Fleischman & Williams, 1996:3-5).

These goals reflect the focus point of evaluation studies: “...*the systematic investigation of the merit or worth of an object (program)*” (Mertens, 1998:219). Programme evaluation could examine the worth of programmes by analysing the design and implementation *processes* and the impact of the programme content as *product*. In the researcher’s view programme *process evaluation* could include evaluation of issues like: admission criteria and process, staff and student orientation, teaching-learning opportunities, organisation of time tables, staff workload, availability of learning resources for students, assessment and record keeping system, and involvement of stakeholders in the programme design. *Product evaluation* as evaluation of the success or failure of the programme in terms of its aims, could include evaluation of the scope and depth of content, stated versus achieved learning outcomes, assessment documents and results, enrolment versus pass rate, drop-out rate, mode and median and certification document.

This research does not ask summative questions that *judge the worth* or merit of the content or the effectiveness *towards achieving the goals of the programme* as it is not a ‘programme evaluation’ research. Instead, the design and implementation framework of the ADED programme is analysed according to a synthesised framework (cf. Table 3.9) in order to recommend suitable guidelines for the design and implementation of typical CBE programmes in UNAM.

### ***Ethnographic research design***

Ethnography can be defined as a research method that describes and analyses practices and beliefs of cultures and communities. More accurately, “...*ethnographic research typically includes a study of the group’s history, geography, kinship patterns, structures (i.e., the group configuration in terms of kinship or politics) functions (i.e., the social relations between group members), rituals, symbols, politics economic factors, educational and socialized systems, and the degree of contact between the target and mainstream cultures* (Mertens, 1998:165). Ethnography then presents a sociocultural analysis of the unit of study. At a first glance it looks as if a ‘case study’ and an ‘ethnographic study’ are identical, however, according to Mertens (1998:166) who acknowledges different authors, the two types are not identical: *Case study* research is not distinguished by its *methodology* from ethnographic research, but rather by the *object of study*. The object / unit of study in case studies is a *complex instance, a unique case, or bounded system* that is described and *analysed as a whole in its context*.

The third research design mentioned above is the ‘case study design’. Differences of opinion exist as to whether a case study is a *method* or a *research design* but since a variety of methods are used to collect data within a case study, it should rather be viewed as a design (Denscombe, 1998:32). The next step is to have a closer look at what a case study design entails.

#### 4.4.2 Case study design

Since 1894 Windelband has proposed the distinction between *nomothetic* and *ideographic* research. Nomothetic research has a general or *universal* interest and ideographic research has a *contextual* goal. Contextual research strategies can be exploratory, descriptive or explanatory. Descriptive contextual research makes use of case studies, in-depth interviews and participant observation. Descriptive studies typically follow a qualitative methodology of data collection and analysis (Mouton and Marais, 1988:48-49).

Case study research could be defined as an in-depth study of a single unit, such as one individual, one group, one organisation, one program and so on. The goal is to arrive at a detailed description (why and how) and holistic understanding of the entity (Ary, et al. 2002:440) be it a process, event, person or object Leedy (1997:157). The entity that is to be studied in depth in this research is the design and implementation framework of a CBE programme. According to Denscombe (1998:30) the case study is appropriate when the aim of the research is to illuminate the *general* by looking at the *particular* and therefore for *theory-testing and theory-building*. Given that it is the intention of this research to build the theory of a CBE design and implementation framework in the UNAM context, the case study research design deemed applicable.

Case study research characteristically emphasises the following:

(a) *Spotlight on one instance*

The logic behind concentrating efforts on one case is that there may be insights to be gained that can have wider implications. The aim is to illuminate the general by looking at the particular.

(b) *In-depth study*

A case study can delve into things in more detail than other approaches, like for instance, a survey. Details of the context of the case that have a bearing on the case such as the physical environment, historical, economical and social factors are also recorded (Leedy and Ormrod, 2001:150).

(c) *A focus on relationships and processes*

To understand one aspect of a case requires a study of various aspects of the case as components affect each other. In this respect, case studies tend to be holistic rather than dealing with isolated factors. End-products, outcomes and results all remain of interest to the case study researcher, but attention is also given to the relationships and processes which have led to these outcomes and therefore case studies can explain *why* certain outcomes might happen.

(d) *Natural setting*

The *case* is normally something that already exists prior to the research. It is not artificially generated for the purpose of the research like in an experiment where controls on variables are imposed.

(e) *Multiple sources and multiple methods*

Observation of events within the case study setting can be combined with the collection of documents from official meetings and informal interviews with people involved. Questionnaires are also typically used to gather more information on particular points of interest. Apart from agreeing with the above features, Leedy (1997:166) points out that the methods of data analysis entails *interpretational-search for themes, structural search for patterns* and *reflective-rich portrayal of participants views*.

(Denscombe, 1998:30-32; Leedy, 1997:166; Merriam, 1998:26-33).

Although the ADEd case study qualifies as *contextual / ideographic* research, it has however also a universal or *nomothetic* interest because of its analysis according to a synthesised framework (cf. Table 3.9). Compared to the mentioned characteristics of case studies this research is an in-depth focus on design and implementation issues of ADEd as ‘one instance’.

Furthermore, the focus is on 'relationships and processes' regarding design and implementation issues. Thirdly, ADEd counts as a 'natural setting' case, because the pilot programme was concluded in the real setting of UNAM. Fourthly, this case study research makes use of the characteristic documentary analysis and questionnaires to interpret information for 'themes' and 'patterns' regarding design and implementation issues.

A particular research design should be selected if it represents the most appropriate plan for addressing the research problem and questions. According to McKernan (1996:75) case studies have become something of a workhorse in qualitative studies in diverse fields such as anthropology, education, law, social work, medicine and psychology to mention a few. In education it has been proved useful for studying educational innovations, evaluating programmes and informing policy (Patton, 1987:19). The researcher should however also take note of the possible disadvantages of case study designs (Denscombe, 1998:40-41; McKernan, 1996:76; Ary, et al, 2002:441).

An important disadvantage of case studies is the possibility that merely descriptive data is produced and that results are not generalisable. The proposed framework based on the analysis of the ADEd design and implementation could be applied to other faculties in UNAM. Firstly, since the framework suggests *design steps* and *implementation steps* that are relevant for most CBE programme development. Secondly, UNAM faculties have similar internal conditions and systems and enrol mainly the prospective teacher students of the Faculty of Education. For similar reasons, the proposed CBE design and implementation framework might also be valid for other higher education contexts in Namibia, particularly for the colleges of education that educate primary teachers. These colleges of education have similar contexts as the UNAM context, namely, they enrol students with common Namibian schooling background, offer subject-based programmes, experience a lack of funding, and have comparable administrative structures and a multicultural staff. Furthermore, the fact that the focus of the study is on a programme design and implementation framework and *not on particular programme content*, allows for possible generalisability of the findings to some Southern African Developing Countries (SADC) universities with similar institutional and national circumstances.



The fact that interpretive research with a focus on understanding of phenomena in context is currently accepted as valuable in its own right, counteracts the former view that case studies are producing merely descriptive ‘soft data’. The physical, educational and historical boundaries of the ADEd programme are very clear and consequently no difficulties exist in deciding what sources of data to incorporate or to exclude. Moreover, the researcher was part of the ADEd design task force, so access to the case study, documents and people was not a problematic issue. Since the researcher was functioning as a colleague and task force member and not as an outside observer at the time of the ADEd project, the danger of the Hawthorne-effect was not applicable. In conclusion, it seems fair to suggest that the possible disadvantages of a case study design appear to have been limited in this study.

#### **4.4.3 Reasons for selecting this particular case**

In addition to the reasons provided by Ary, et al. (2002:48-50), Denscombe (1998:33-34) identifies further grounds on which the selection of a *case study* might be justified, namely: because it is a typical instance, an extreme instance, a test-site for theory and a least likely instance. He further warns that a case should not in the first place be selected as a matter of convenience but that convenience can come into play only when deciding between equally suitable alternatives.

In regard to Denscombe’s (1998:33-34) grounds for selecting a case study, the ADEd programme was selected on the grounds that it was the first cautious attempt by the Faculty of Education at the University of Namibia to incorporate competency-based ideas into a teacher-training programme. The ADEd case has been selected as a ‘typical instance’ and therefore a ‘purposive sample’, but also as a suitable opportunity for theory-building. On completion of the ADEd pilot the programme was abandoned and so no later CBE programme is available for a case study. As this case is the *only available example* of a competency-based teacher programme in a Namibian university context, the selection was also done on the basis of ‘no real choice’. This should, however, not diminish the fact that the ADEd as a case in time contains crucial elements of competency-based design and implementation of CBE teacher education programmes that could be analysed for theory building as this study aims to do. This selected case is representative of the higher education context in Namibia; and representative also of a

relative small institution, with a multicultural staff and student body where the Faculty of Education operates like a typical teacher training institution. Even though the ADEd teacher programme is a secondary teacher training programme the generalisability of the findings to the four Namibian teacher training colleges that train primary teachers, as well as other higher education contexts in Namibia, like the Polytechnic of Namibia, is valid because the design and implementation *process* rather than the *content* of the ADEd programme are analysed.

#### **4.4.4 Research problem and research questions**

Very little expertise about competency-based programmes was available in the Faculty of Education at the time of the design (1997) of the Advanced Diploma in Education. Moreover, critical questioning of the subject-based curriculum orientation followed at UNAM, was not welcomed. In 2000 a four-year B. Ed degree replaced all previous teacher education programmes at UNAM and honours degrees were abandoned (cf. Chapter One, 1.1). A small task force of six lecturers seized the opportunity to propose a competency-based ADEd programme to fill the gap for further education of teachers. The resistance of the faculty was overwhelming but consulted stakeholders and senate were very appreciative of the proposal and a pilot programme running over two years (1998-1999) was approved. The appropriateness of a CBE programme and its design and implementation framework is now the main research problem of this study.

##### ***Research problem***

In the light of the background provided in Section 1.5.9 the research problem or question that emerged (cf. Section 1.3) was: In what way can CBE serve as a useful theoretical framework to design and implement a teacher education programme at the University of Namibia?

##### ***Research sub-questions***

The research problem can be elucidated by the following key questions that also highlight the primary aims of the research:

- (a) How appropriate is CBE for the design and implementation of a teacher education programme at the University of Namibia?

- (b) What constitutes a design and implementation framework of a competency-based teacher-education programme?
- (c) How did the design of the ADEd programme correspond to the characteristics of such a CBE design framework?
- (d) How did the implementation of the ADEd programme correspond to the characteristics of such a CBE implementation framework?

In order to operationalise these four questions the main challenge was thus, firstly, to analyse the characteristics of CBE and evaluate whether the underpinning theory of CBE is appropriate for teacher education in general. Secondly, what would constitute an appropriate CBE design and implementation framework for a teacher education programme at UNAM? Thirdly, to what extent did the ADEd design framework correspond to the characteristics of such a CBE design framework? Fourthly, to which extent did the implementation of the ADEd programme meet the characteristics of such a CBE implementation framework? The focus of the *post-hoc* analysis of ADEd was therefore not to evaluate the content or quality of the piloted ADEd programme per sé, but to extract the insights gained from piloting this Namibian programme regarding the *design and implementation* of CBE programmes.

The four key questions above directed the study and therefore demarcated the scope and depth of the research. According to the mentioned aims, the focus was on understanding the theory and application regarding a CBE design and implementation framework. This understanding obviously required investigation into the philosophical and other features of CBE, the criticism levelled against it (cf. Section 2.3, 2.6), the advantages and limitations (cf. Section 2.6.3-2.6.4) and how these impact on programme design and implementation (cf. Table 3.9) in teacher education.

The questions did not only direct the nature of the research, but also characterised the position of the theme within Education as a field of study. It is especially from the position of curriculum enquiry that the study was undertaken, supplemented by insights from related fields such as Adult Education, Educational Psychology, Educational Management and Comparative Education.

## 4.5 METHODS OF GENERATING DATA

The term ‘data’ derives from the “*past participle of the Latin verb dare, meaning ‘to give’*” (Leedy, 1997:99). Data give the opportunity for the interpretation of patterns, the social meaning or analysis of relationships between events and external factors (Ary, et al. 2002:423, acknowledging McCutcheon, 1981). Chapter Five presents the ADEd design and implementation data and Chapter six critically analyses this data against the synthesised framework.

To generate the data required by the research questions the following methods were applied. To generate data for the research sub-question (a) (cf. Section 4.4.4) the characteristics of CBE were identified through a literature review and critically discussed to determine the appropriateness of CBE for teacher education. To generate data for the research sub-question (b) (cf. Section 4.4.4) ten CBE programme design and implementation frameworks were analysed to create a synthesised design and implementation framework which was monitored for incorporating CBE features. The synthesised framework (cf. Table 3.1) was expanded through a further literature study (cf. Table 3.9) and finally validated through an international survey. In terms of generating data for the research sub-questions (c) and (d) the original ADEd design and implementation data were generated through methods such as stakeholder feedback on the ADEd design questionnaire (cf. Appendix 3), feedback from a student questionnaire (cf. Appendix 6), analysis of relevant design and implementation documents and researcher observations as participative lecturer and co-ordinator of ADEd. In addition the *post-hoc methods* included the said literature review, external moderators’ views, a visit to a number of Australian universities and an international survey regarding the proposed design and implementation framework (cf. Appendix 9, 10 and 11). The expanded and validated framework (cf. Table 3.9) was applied to the ADEd case in order to determine if changes should be made to it for the local UNAM context. Both the original ADEd methods and the post-hoc methods of validating the designed CBE framework are thus incorporated. The following sections describe the specific methods by which the original ADEd frameworks were generated in this study.

### 4.5.1 Design analysis questionnaires

Fink (1998:109) notes that no single method of generating data is inherently better or has more quality than another. The goals and the context of the research are deciding factors concerning which method would be more practical and provide reliable and valid information. A combination of sources and methods were therefore applied in this research.

The original design of the ADEd had to be done under particular time constraints and many of the targeted stakeholders were situated hundreds of kilometres outside Windhoek. Due to the uneconomical time required to explain all dimensions of the programme to many stakeholders, personal and telephonic interviews were rejected in favour of a mailed ADEd brochure accompanied by a questionnaire. Although the brochure (cf. Appendix 1) allowed for analysing the ADEd design and implementation information at convenient times to the stakeholders the focus was on features of ADEd rather than on the completeness of the framework steps. The questionnaire that was based upon the brochure provided limited feedback about the programme design and implementation as some steps were not covered by the questionnaire questions, for instance, the rationale and administrative changes. The task force consisted of six lecturing staff (three male and three female) and represented five departments in the Faculty of Education. The ADEd task force summarised the results and incorporated them in the diploma design and implementation activities. The summary of this broad stakeholder feedback was presented to Faculty of Education staff and the Executive Board of Senate. The results of these questionnaires will be analysed in Chapter Six. In this section the focus is however on the construct and application validity of this said questionnaire.

In total, 86 copies of an ADEd brochure (see Appendix 1) accompanied by a covering letter (see Appendix 2) and over 200 design analysis questionnaires (see Appendix 3) were sent (in August 1997) to Faculty of Education members, 34 school principals, seven regional directors, several officials in the Ministry of Basic as well as Higher Education, the four colleges of education, Teachers Unions, the National Institute for Educational Development and the National Qualification Authority (Faculty of Education Board minutes, September 1997:4). Although only 17 questionnaires were returned, a big sample of external stakeholders had the opportunity to participate in the new programme design, since some of these questionnaires represented whole unions, regions or educational institutions. A bigger concern than the size of the feedback population is perhaps the value of the nature of the feedback since the focus was on the ADEd

features rather than on the design and implementation framework steps per sé. The Faculty of Education board and senate members furthermore had the opportunity to discuss the new programme. This broad initial participation is typical of CBE designs and the ADEd task force broke new ground in the Faculty in this respect, as stakeholders had not been previously consulted about the design of teacher education programmes.

Although the focus of the stakeholders' questionnaires was designed for a different purpose, at least the guidelines as proposed by Bell (1987:58-69) to promote a valid and reliable questionnaire design, were adhered to: The general appearance and layout of the ADEd *design analysis* questionnaire, see Appendix 3, was considered. Other features included: sufficient spacing, prominent section headings, short questions and simple language and the order of the questions correlated with the order of the information provided in the brochure. In addition, there were helpful instructions, and sensitive biographical questions were placed at the end of the questionnaire and contact names and numbers were provided to facilitate inquiries. Question 5.5 of the questionnaire (cf. Appendix 3) assumed that respondents had some understanding of the typical subject content of the proposed subjects in order to rate the importance of the listed subjects. This might have been difficult to answer since respondents outside the Faculty of Education and Windhoek were not provided with the course content of each subject but merely with the module titles in a curriculum overview. Respondents were allowed three weeks to respond. No follow-up communication was done to encourage a higher return rate of responses and this fact could be criticised. Contact names for further enquiries were provided in the covering letter, however no enquiries were received. A self-addressed envelope was not included, although the covering letter suggested feasible possibilities of forwarding the responses and that could have encouraged non-respondents.

Apart from the above features of designing questionnaires the following features of questionnaires highlighted by Best and Kahn (1993:230-243) and Berdie, Anderson and Niebuhr, (1986:22-62) were applied in the ADEd design questionnaire: Each section provided an open-ended response space; ambiguous adjectives and adverbs were avoided; the possible technical terms referred to such as 'competency-based' and 'teaching-learning philosophy' were explained in the attached brochure, but not in the questionnaire. Again, the names of the listed subjects under 5.5 were very descriptive but their content was not necessarily clear to the respondents.

The concept (H)IGCSE was not clarified since the Cambridge (H)IGCSE system is applied nationally and all educational stakeholders would be clear about its meaning. The reduction of pages to A5 size shortened the length of the questionnaire while the 18 close-ended questions could be considered as few enough and not requiring much time to answer. The scales for answers involved simple yes / no two-point scales that were suitable to express views on the design issues, although no neutral option was available. Item 5.5 clearly indicates that a score of 1 is the highest priority and 5 the lowest, but it could have been more logical if a score of 5 had represented the highest priority.

Analysis of the ADEd design questionnaire in terms of the criteria of Berdie, Anderson and Niebuhr (1986:22-42) shows that items were grouped into coherent sections that were numbered. The yes / no responses were mutually exclusive and no technical terms or abbreviations were used. The ADEd response categories were arranged vertically rather than horizontally to eliminate the common error of checking the space on the wrong side of the answer. The questionnaire clearly displayed the names and contact numbers of the researchers as well as the university logo.

Respondents were protected by being promised confidentiality. The university logo was displayed to reflect the legitimacy of the research and hopefully elicit responses. Ary, et al. (2002:406) further recommends that a questionnaire might provide a space for respondents to indicate whether they would be interested in the results of the research. This offer may promote a higher response rate. Respondents were thanked for their time and input at the end of the questionnaire, but were not asked to indicate whether they would be interested in the results of the research. The topic was of interest to officials in education and the ADEd questions sought worthwhile information related to the topic. As such the questionnaire thus had face validity.

The original design instrument did not pose questions in connection with the need for training teachers in certain scarce subjects as this was determined by analysing the national educational statistics. The questions rather focussed on the design of the proposed Advanced Diploma. For example, respondents had to respond to questions concerning the title, admission criteria, subjects to be included and assessment criteria. The ADEd questionnaire was not field-tested first and this might be a weakness that could have been prevented if more time had been

available. On the whole, the design questionnaire appeared to meet most of the criteria for well-designed questionnaires.

#### **4.5.2 Document analysis**

McKernan (1996:148) and Mertens (1998:166-167) recommend that the following types of information could be generated about case studies: Its historical background; the nature of the case; the legal, economical and political context of the case; other cases through which this case is recognised and informants through whom the case can be known. The aim of document analysis is thus to lay bare the facts of the inquiry. The type of information that is important for this research is information regarding the ADEd design and implementation rather than legal, economical or political circumstances. The documents of ADEd that reflect the design and implementation issues were thus investigated.

Some of the advantages of document analysis are that the information may be more reliable than that obtained from questionnaires or interviews and that documents are inexpensive and easy to use. Some caveats are that the accounts may be biased, inaccurate or not accessible because documents are confidential (McKernan, 1996:149). The ADEd programme was well-documented, all documents were accessible and reflected ideas of the task force as opposed to ideas of a single researcher as a participant observer.

The validity of documentary analysis is judged by “...*the criteria of authenticity, credibility, representativeness and meaning*” (Scott, 1990:19). Authenticity concerns a document’s genuineness; whether it is actually what it purports to be. The researcher was in possession of the original ADEd documents and poor copies or fraud were therefore not issues. Assessing the credibility of documents involves an appraisal of how distorted contents are. ‘Distorted’ refers to selective accentuation of content. The value of document content must be assessed by relating it to the context / conditions under which it was produced. A selective accentuation of content regarding the ADEd programme design and implementation was not an issue, because different documents reflected the views of many stakeholders. The sincerity part of credibility involves the question of whether the author(s) of the document actually believed what was recorded, and the reason why it was documented. The content of official documents often reflect the



requirements of the official political position, not the author's believe. Similarly, personal documents may be produced for reasons of self-justification, exhibitionism or intellectual search for the meaning of life. In the case of ADEd the documents' content was about the needs for, design and management of the implementation of the programme.

The issue of 'representativeness' encapsulate *survival and availability*. According to Scott (1990:24-26) researchers should assess whether the documents that have *survived* are representative of the totality of the documents. The ADEd documents were available in print and diskettes and as the researcher was a member of the original task force as well as the Faculty of Education, it is fair to contend that all relevant ADEd documents survived possible misfiling or deliberate being hidden and that the design and implementation of the ADEd programme were fully represented by these documents. The *availability* of documents and access to them also caused no problems in the ADEd case.

The last criterion for valid documentary analysis as mentioned above, is the one of 'meaning'. The ultimate purpose of examining documents is to arrive at an understanding of the meaning and significance of what the documents contain. The issues of literal understanding such as possible 'technical language or dating' of the ADEd documents are no problem, because the project occurred in 1997/8 and the competency-based terminology is familiar to the author. The achievement of literal understanding is the first step towards interpretative understanding. "*Interpretative understanding is the end-product of a hermeneutic process in which the researcher relates the literal meaning to the contexts in which they were produced in order to assess the meaning of the text as a whole*" (Scott, 1990:30). This means the hermeneutic process of understanding goes beyond understanding of definitions and style of the document genre to appreciation of the *social and cultural context* through which the various concepts are related and a judgement on the meaning and significance of the text as a whole. The ADEd curriculum document (cf. Appendix 7) is one of the most complete formal ADEd documents and the structure thereof is based on the elements and steps of programme design. The ADEd documents are not about social events which need to be related to the cultural context of the time, but the organisational culture in the Faculty of Education at the time was related to the design and implementation processes. The frame of reference of the ADEd task force differed from the

Faculty of Education frame of reference in the sense that the task force was willing to pilot a controversial teacher education programme.

A text incorporates the *intended* meaning that an author of a text intended to produce, while the *received* meaning is constructed by its audience (Scott, 1990:34). Since the author of this research was both the co-designer and the audience of the ADEd documents / texts, the possibility of misinterpretations were greatly eliminated. It should be clear from the above that the four criteria for document analysis are interdependent and that the interpretation cannot be separated from questions of production, because a text is validated by relating it to the intentions of its author and also by relating the text to its audience.

The selected documents must present a complete picture of the case study and answer internal validity questions such as ‘what does it actually convey’, ‘who produced it’, ‘has it been altered or edited’ and ‘how long after the event was it produced’. These four questions reflect the guiding principle in document analysis, namely that everything should be questioned (Bell, 1987:57). According to Becker (1989) and Stergios (1991) in Sarantakos (1998:274-277) analysis of documents is an indirect data gathering method as opposed to direct methods like interviews and questionnaires. Out of possible documents like public documents, archival records, personal documents, administrative documents and formal reports, the last two documentary types were analysed in this study. Documentary evidence in this case study played a central role as they revealed and captured the design and implementation processes involved in ADEd. These primary sources included minutes of the ADEd task force and Faculty Board, the ADEd curriculum document, the memoranda to stakeholders, the original design analysis questionnaire, feedback questionnaires from students and the UNAM Faculty audit report of two Manchester University colleagues. Further examples of relevant ADEd documents were the project implementation schedule, the induction document for lecturing staff involved and the ADEd brochure.

The original data generating methods concerning the following ADEd design and implementation framework documents are briefly delineated.

#### **4.5.2.1 ADEd design and implementation framework document**

The researcher compiled a design and implementation framework document that guided and structured the discussions of the task force. Each member was in possession of the framework document. These frameworks translate CBE theory into practical steps that provided an overview of the whole ADEd design and implementation processes and members could see in what order particular issues would be dealt with. Having a design and implementation framework (see Appendix 5) was clearly beneficial in terms of directing thinking and saving time. This document with its three sections, namely, *planning steps*, *development and implementation* steps and *evaluation and improvement* steps lacked however correlation with some of the CBE characteristics as spelled out previously (cf. Chapter Two, Section 2.3-2.6) resulting in not addressing some steps and activities per step as the literature suggested (cf. Table 3.9). The shortcomings of the ADEd framework are analysed in Chapter Six.

#### **4.5.2.2 ADEd project time schedule**

The project implementation schedule created a time line and action schedule specifying responsibilities for activities (cf. Appendix 4). The time schedule focused on major *implementation* activities once the programme had been approved. This document proved to be a useful tool to manage the implementation and the post-implementation activities of the task force according to the available time framework. Although the schedule reflected the management of administrative changes such as the tests for English proficiency and training of staff, it did not however reflect the timelines for the *design* activities according to the ‘ADEd design and implementation framework document’ (cf. Appendix 5). This could be criticised. On the whole this schedule contributes to the understanding of a design and implementation framework and highlights possible areas for improvement.

#### **4.5.2.3 ADEd curriculum document**

This document encompassed the final programme information of ADEd including an overview of the learning outcomes per module (cf. Appendix 7). The results of the task force meetings and feedback from stakeholders were reflected in this document titled ‘*Curriculum planning and*

*implementation document: Advanced Diploma in Education*'. It integrated ideas according to the steps of the 'design and implementation framework document' (cf. Appendix 5) and was submitted to the Faculty of Education, Senate and other stakeholders. The ADEd brochure information also portrayed the key ideas of this document. This primary document provides much information regarding the design steps, the assessment policy and practices, the programme content and module contact hours and the implementation schedule. A further important aspect to note in this document is the format of the module content. Learning outcomes that include knowledge and skills are specified and some modules integrate disciplinary knowledge. The specified outcomes are, however, not further developed into 'performance criteria' and 'range statements' as is typically done in CBE programmes. This aspect is further discussed in Chapter Six.

#### **4.5.2.4 Documentation regarding induction of ADEd lecturing staff**

Three weeks before the commencement of ADEd was due, all appointed staff had to attend an induction meeting and received information regarding the features of ADEd, their duties, support available for lecturers, teaching and assessment policy and the compulsory use of student feedback questionnaires (cf. Appendix 8). This meeting and accompanying documentation were especially important for the newly-appointed contract staff that were mostly teachers. Because of this latter fact, some ideas about *adult education* were explained. The names and contact numbers of all staff members involved in ADEd was made available in written format in order to create a support network. This document reveals some of the instructional management regarding the implementation of ADEd but lacks in-depth clarification of CBE characteristics, advantages and limitations.

#### **4.5.3 Observation**

The author was part of the natural setting in the Faculty of Education at UNAM. He was also part of the task force that designed and offered ADEd. Furthermore, he was the programme coordinator who was responsible for the implementation of ADEd. As such the researcher was not an outside or passive observer but a *complete* and *active* (Mertens, 1998:317-318) observer in the design and implementation of ADEd. This 'insider-perspective' of the researcher has the

advantage that the values underlying the social, political and management contextual factors that are not necessarily portrayed by ADEd documents could be brought to bear on the design and implementation practices. This insider-perspective thus allows for more accurate interpretation of ADEd documents since the researcher is aware of these values inherent in the UNAM context. The disadvantage of the researcher being an active observer is its possible influence on his objectivity.

#### **4.5.4 Student feedback questionnaire**

After completion of about half of the first year programme (July 1998), the fourteen enrolled students had an opportunity to provide feedback about the course via questionnaires. The official UNAM student feedback questionnaire, known as the '*teaching evaluation form*' (cf. Appendix 6) was applied, as the priority at the time was not to cause further hostility towards the programme by deviating again from existing procedures. The same questionnaire was also applied at the end (November) of the first and second year. In retrospect the application of the standard UNAM feedback questionnaire was invalid since it was introduced by UNAM to serve the purpose of assessing a lecturer's performance and therefore produced insignificant data about the design and rather little data about the implementation framework of the ADEd.

When the above-identified questionnaire design criteria (cf. Section 4.5.1) for evaluating the ADEd design analysis questionnaire are applied to the UNAM *student feedback questionnaire* the following should be noted: The layout of the responses was easy to interpret. The six-point scale allowed for nuances of attitudes. More valuable than the close-ended questions, were the two open-ended opportunities for *recommendations* and *comments*. The question about the 'variety of teaching methods' and 'clarity and realisation of objectives' and 'availability of learning materials' were relevant for a CBE *implementation* framework. The fact that the questionnaire did not gather information regarding the gender or year of study of the student was insignificant.

A more valid questionnaire should have generated data about *design* aspects such as the appropriateness of the rationale and aims, the scope, depth and relevancy of the content for Namibian challenges, the delivery mode of the programme, the pass and promotion requirements

and the possibility of electives. Valid *implementation* data could have covered the appropriateness of teachers as lecturers for the subject content and methodology, the feasibility of the *second chance* assessment policy, the availability of learning resources and the types of teaching-learning opportunities. The generating of data about design and implementation aspects of the ADEd through the student feedback questionnaire was therefore low.

#### **4.5.5 External moderators' report**

Apart from the local feedback collected through the ADEd design questionnaire from academic staff members and other indicated stakeholders, additional feedback from two visiting scholars was obtained in February 1998 – a month after commencing of the programme. Two members of the Faculty of Education of the University of Manchester visited the UNAM Faculty of Education as part of an institutional link programme. Doctor M. Brown and Mr. I Harrison presented UNAM with an audit of the Faculty of Education. Their feedback suggested that the ADEd model with its stronger competence focus could be applied to all qualifications and courses of the Faculty (Brown and Harrison, 1998:6). This message was not welcomed by many faculty members and simply filed to be forgotten.

Until now the original data gathering methods regarding the ADEd were discussed. The following three sections discuss the post-hoc methods which analysed and verified more current design and implementation frameworks against which the ADEd framework was compared.

#### **4.5.6 Literature review**

The aims of the literature review were to obtain an understanding of the current state of knowledge of the issues at hand; to critically assess and interpret the concepts, classifications, methodologies, arguments and theories of opponents and proponents; to integrate researchers' ideas and to refute the researcher's own arguments (Bell, 1987:20-30). In accordance with such aims the literature review of Chapter Two examined CBE concepts, the origin and expansion of CBE, highlighted the possible positive and negative characteristics of CBE and compared the subject approach with the CBE approach. In addition, Chapter Two analysed the appropriateness of CBE for teacher education while Chapter Three critically analysed and expanded upon a

conceptual framework (cf. Table 3.9) of CBE teacher education programme design and implementation.

The literature review included material from primary and secondary sources that cover original philosophical and historical foundations and latest research publications. Primary and secondary books, journal articles, case studies, and Internet publications were examined (Henning, Van Rensburg and Smit, 2004:27-28; Creswell, 1994:27,37). The review of the literature encompassed discussion and interpretation of it in relation to the aims of this study as depicted in Chapter Two and Three.

#### **4.5.7 Study visit to Australian Universities**

The unavailability (in South Africa and Namibia) of prominent Australian materials about competency-based education, especially on teacher education, spurred the researcher's decision to visit Australian universities with the purpose of conversing with competency-based experts and to gather all possible research material on the topic. The study tour (from 20 August to 10 September 2001) started off in Perth and included visits to Adelaide, Melbourne and Sydney. Appointments were scheduled with the deans of the Faculties of Education or their selected representatives. In Perth the following universities were visited: Edith Cowan University, University of Western Australia and Murdoch University. Competency-based teacher education in Perth was not necessarily detectable in university practices of the visited institutions and the author could not get an interview with an expert on the subject. The Technical and Further Education Institutes in Perth as in the rest of Australia make use of national competency standards, but TAFE institutes are not viewed as higher education contexts and the researcher did not visit such institutions.

Unfortunately the researcher could not meet with a CBE expert at the University of Southern Australia in Adelaide who was involved with CBE at a national level in Australia. A rewarding visit was made however to the Bundoora West campus of the Royal Melbourne Institute of Technology (RMIT) University in Melbourne and The University of Technology in Sydney. Apart from obtaining many relevant publications from these two institutions the researcher had discussions with staff such as Bowden and Gonczi about the criticism against CBE, approaches

to manage change, co-operation with other faculties that provide an input in teacher education programmes and the importance of resources and support from top management. Strangely enough an example of a CBE design and implementation framework was not available. The author also visited several government officials responsible for managing competency-based education in the Technical and Further Education (TAFE) institutes in the state of Victoria and obtained an Instructor Training Manual incorporating competency-based ideas.

Since the Melbourne visits, it has become clear that the 'Universities of Technology' in Australia are the higher education institutions where competency-based ideas have been actively debated and tested.

#### **4.5.8 Post-hoc international survey**

The expanded synthesised design and implementation framework depicted in Table 3.9 (attached as Appendix 9) was disseminated (from 19 May to 17 August 2006) to eighty-nine international academics (cf. Appendix 11) in order to obtain feedback about the validity of the expanded conceptualised framework. The recipients were selected on the basis of their publications or being part of curriculum departments and represented some universities of Southern Africa, Australia, New Zealand, Canada, The United Kingdom, The Netherlands, Namibia, Singapore and the United States of America. The framework was accompanied by a covering letter which identified the researcher, stated the rationale and purpose for the research and a specified date for the return of the feedback (cf. Appendix 10). A response instrument was also attached which gathered information regarding the respondent's name, rank, institution, country and e-mail address. The response instrument repeated the purpose of the research to guide the feedback in terms of the appropriateness of the framework steps, the sequence and activities per step. The date of return was again stated clearly (cf. Appendix 10). The response rate was rather low and a second, third and fourth attempt was made to elicit responses. Eventually four respondents of South Africa, four of UNAM and three others, including the CBE expert, Dr. William Spady, replied.

The feedback of the eleven respondents (summarised in Appendix 12) was positive and although the number of respondents could be criticised the confirmation of the proposed design and



implementation framework from experts is as important a research finding as dissenting perspectives would have been. The respondents found that the design and implementation framework steps and activities per step were incorporating fully the CBE characteristics (cf. point 1-6 of Appendix 12). It was also observed that the systematic *implementation* framework is a valuable contribution to ensure that a particular designed programme might be put into practice effectively (cf. point 11 of Appendix 12). An additional positive comment was about the stakeholder input and the addressing of the relevant National Qualification Framework standards for teacher education. This implies that institutions should at least meet the minimum national standards while exercising academic freedom to expand on it. Of particular importance are the views of the four UNAM lecturers from different faculties that found the framework ‘applicable to faculties across UNAM’ although they realised that the ‘management of change’ would be an important step to deal with expected resistance (cf. points 14-15, Appendix 12). On the critical side the respondents observed that the framework steps should not be viewed in a linear fashion but rather as a cyclical process and that the sequence of some steps might be adapted to local circumstances (cf. points 21, 12 and 13, Appendix 12). This seems to be a reasonable suggestion. The respondents also warned that the overemphasis of either narrow academic or occupational competence should be avoided – indeed an important issue regarding the quality of a programme. Lastly, it was observed (cf. point 16) that although the details of steps address CBE characteristics and guide designers on what issues to consider, the reality of deciding upon issues is complex and ‘open’. This is precisely why ongoing discussion as part of managing change to a CBE paradigm is so important to address these diverse perspectives. The feedback of respondents (as in Appendix 12) is applied to the analysis of the ADEd framework in Chapter Six.

#### **4.6 ANALYSIS OF DATA**

Data gathered from the literature review, ADEd document analysis and questionnaires were interpreted with the aim to discover relationships and patterns regarding programme design and implementation frameworks suitable for teacher education.

Section 4.5 above indicates that the following descriptive data sources were consulted: the ADEd design analysis questionnaire; the ADEd project implementation schedule; suggestions related to

CBE design and implementation frameworks in the literature; the ADEd design and implementation document; the curriculum planning and implementation document; the ADEd staff induction document; the results of the student feedback questionnaires; the external Manchester recommendations and the international survey results. Section 4.5.2 also indicates how the ADEd documents met the criteria of ‘validity’ and ‘representativeness’ (Scott, 1990:19) in order to enhance a valid analysis and interpretation of data.

Ary, et al. (2002:465) state that the analysis of data requires a researcher to *arrange, analyse and interpret* data. In order to make the process of analysing the data manageable, three steps were involved: *organising* of the data; *summarising* of the data and *interpreting* of the data (Ary, et al. 2002:465). The organising of data involves the reducing of data through a process of coding. This coding could identify ‘process codes’, as categories of events, and a further subdivision of ‘activity codes’, as typical activities within a category. The *summarising* of data involves the identification of the connections or relationships between activity codes that could form categories as process codes. The *interpretation* of data involves extracting the meaning from the descriptive data and indicates what is important, why it is important, how activities as well categories are connected and thus sequenced. In addition the interpretation involves discussion of the plausibility of the conclusions and the application of triangulation to validate an unbiased interpretation (Ary, et al. 2002:465-471). Scott (1990:30) emphasises the consideration of the contextual dynamics as part of the hermeneutical interpretation of data analysis. Hermeneutically implies “... *the researcher relates the literal meaning to the contexts in which they were produced in order to assess the meaning of the text as a whole*”. These processes of data analysis for qualitative studies are also corroborated by Miles and Huberman (1984:50-71) referring to first level coding (concepts); second level coding (patterns); and ‘momoing’ (explanatory framework). In essence, however, there seems to be agreement that data analysis involves coding, summarising and interpretation of relationships.

In correspondence with the research sub-questions of the study, the literature data was amongst others *organised* to distinguish the features, appropriateness and limitations of CBE for teacher education programmes in university contexts. The key research question was, however, what a CBE teacher education design and implementation framework would look like at UNAM. The ADEd documents, particularly the “ADEd design and implementation framework document’ (cf.

Appendix 5) served initially as ‘cognitive map’ (Miles and Huberman, 1984:68) to analyse ten CBE programme frameworks (cf. Chapter 3: Section 3.1) as this framework already represented a first level of coding (process steps) and subdivisions (activities). This analysis process highlighted new ‘process codes’ (steps) and ‘activity codes’ within the design and implementation steps that were synthesised into new frameworks and summarised in table format (cf. Table 3.1). This level of analysis provided a more ‘holistic picture’ (Bell, 1987:57) of the design and implementation process for a teacher education programme than the original ADEd framework. A next level of analysis identified further possible process or activity codes (conceptual clusters) and the connections between them (cf. Chapter 3: Section 3.3) and this expanded conceptual framework is summarised and presented as Table 3.9. (Chapter Six critically analyses the ADEd framework against the expanded conceptual framework.) The final level of analysis of the CBE conceptual teacher education programme design and implementation framework involved triangulation (Creswell, 1994:7) via international survey respondents (eleven in total) who commented on the ‘process codes’, the ‘activity codes’ as well as the ‘connections’ between activities and processes / steps (cf. Appendix 10).

The meaning of data was thus interpreted firstly, as being part of a design or implementation framework; secondly, to which particular step of a framework it belongs; thirdly, why it was important to be incorporated under a particular step and fourthly, what would be a logical sequence for activities per step. Finally, the sequence of the particular steps within the design and implementation framework was interpreted as logical and plausible. The meaning of the ADEd framework data was also interpreted in relation to the political context in the Faculty of Education at the time of ADEd to ensure understanding of the *meaning of the text as a whole* (cf. Chapter 6: Section 6.1.1). As the analysis was of a hermeneutically qualitative nature, no descriptive statistics using statistical analysis techniques were used to analyse data in this study.

#### **4.7 ASSUMPTIONS OF THE RESEARCH**

The previous motivation of the research paradigm and type of qualitative research design for this research, indicated some assumptions underpinning this research. The critical assumption being that reality is contextual and experienced subjectively by individuals. It should therefore be recognised that the Namibian university and broader national context would have unique

influences on a proposed CBE teacher programme design and implementation framework. This contextual feature obviously has limitations for the extent to which generalisations could be made.

In this study the researcher adopted theoretical assumptions that might bias the research design and interpretation of results. These assumptions should be acknowledged and their influence monitored. It includes the following assumptions:

- (a) The researcher assumes that education is not merely an end in itself, but a means to an end, like the ability to manage life more competently. This implies that higher education should be relevant for living and working. Qualifications should thus have both an occupational and academic focus.
- (b) All levels of education are both a way of living as well as a preparation for life. This makes education the teaching of people a priority and not the teaching of subjects. This education of people should be holistic and thus include knowledge, skills and values and not simply knowledge.
- (c) Education, including higher education, must relate clearly to the particular societal context and accommodate the individual as well as the current and future national development needs. This utility function of education is especially important in a developing country such as Namibia.
- (d) Quality teacher education and training programmes should be aligned with global educational, technological and economic developments to ensure some degree of global competitiveness for individuals and the nation. Such current global educational ideas include the question about the suitability of competency-based curricula in higher education.
- (e) Quality education combines theory and practice to enhance deep learning that allows transferability of knowledge and skills. Therefore students' depth of understanding rather than quantity of prescribed content determines quality.

The researcher addressed these subjective assumptions by firstly recognising their existence. He avoided biased selection and interpretation of information sources and presented criticism, advantages and limitations regarding theory and practices of CBE, as reflected especially in Chapter Two and Five. The researcher also acknowledges that the ADEd case study findings have limited applicability. The following sections on limitations, validity and reliability suggest in more detail how researcher assumptions and other methodological aspects are purposefully addressed to enhance reliability and validity of the research.

#### **4.8 LIMITATIONS OF THE RESEARCH**

The researcher is aware of the following weaknesses of qualitative research as identified by Sarantakos (1998:82): extreme subjectivity on the part of the researcher causes problems of validity and reliability; there is a risk of generating meaningless and useless information; the generalisability of the findings could be problematic if the data was not representative of wider contexts; unprofessional and dishonest behaviour by the researcher may cause ethical problems. How such weaknesses are addressed in this study is mainly addressed by the next two sections on validity and reliability regarding the research methodology of the study. However, the possible weakness of ‘generating meaningless and useless information’ needs to be addressed in this section as it concerns the overall contribution or not of this study to CBE programme design theory and practices.

A superficial observation about the contribution of the study to CBE programme design theory and practices might be that most of the framework steps and their detail activities appear to be known. This might be partly true but it was indicated under Section 2.3-2.5 how CBE characteristics differ from SBE and are applied uniquely. The fact is that the contribution of this study lies in synthesising different framework examples and ‘integrating loose standing issues’ (known and new) such as ‘quality education’ ‘RPL’, ‘managing of change’ and ‘instructional management’ into a *systematic* design (addressing CBE theory) and implementation (focus on practices) framework (cf. Table 3.9) that is incorporating the unique CBE characteristics (cf. Chapter Three). The proposed synthesised framework is thus the ‘hypotheses’ of the study that was validated through an international survey. The relatively few critical observations about the proposed framework also confirms that the ‘integration of many perspectives’ was quite

complete and that possible limitations of CBE were addressed. The analysis of the ten programme frameworks and its expansion through further research proved that the integration of 'loose standing' CBE perspectives and practices are no easy undertaking and that it would be reasonable to assume that programme designers in possession of the newly proposed framework could benefit from it. The proposed framework is a unique contribution for Namibia (if not for Southern Africa) as such a complete framework does not exist in Namibia. The UNAM Academic Planning Committee has already approved (University of Namibia, 2007:9-11) that the 'headings of the design steps' and the 'format of the module descriptors' be applied in the UNAM context. Further elaboration of the contribution of the study to CBE theory, practice and research is undertaken in Chapter Seven.

The concerns about the research methodology that might be perceived as limiting are the following: the age of the case study; the size of the student cohort of the case study; the focus of the case study documents regarding design and implementation issues; the size of the original and post-hoc population from which feedback was gathered and the nature of the feedback obtained. In regard to the age of the ADEd it must be pointed out that there is no later CBE programme available at UNAM (see paragraph 'e' below). The fourteen ADEd students did not influence the *design* framework negatively although the *implementation* of a CBE programme with such a small number of students could produce a positively skewed picture of the challenges of a CBE implementation (see paragraph 'c' below). The international validated framework counter this possible skewed image and the lessons from the ADEd implementation relate to the *contextualisation* rather than an appropriate CBE framework. The original ADEd documents were not designed with the purpose of establishing a CBE framework and the data thus gathered via these documents did not produce a complete framework. The international validated framework, however, produced a comprehensive framework, although seen ideally the eleven respondents to the international survey were rather on the small side. The fact that the eleven respondents approved almost completely the validity of the proposed framework does suggest that the framework appropriately represents CBE perspectives and is structured systematically.

Further contextual and methodological research constraints experienced during the ADEd pilot programme should be acknowledged.

- (a) At the time of the introduction of the Advanced Diploma, the political power struggles in the University of Namibia and the Faculty of Education caused very unfavourable conditions for change so that the issue of piloting a new curriculum design and implementation did not get the open-minded discussion and support it deserved. However, valuable insights for a design framework were spurred by these circumstances.
- (b) The rationale and aims of the diploma targeted specific scarce subject teachers with a four-year qualification from all over Namibia. This meant teachers from outside Windhoek had to travel to Windhoek about every third Saturday for a whole day of classes. This 'equal access' design feature with resultant 'block system' had a definite influence on the implementation of ADEd as the long distance travel and one full day of learning proved to be very strenuous for students. This contextual feature should be recognised as not being an integral feature of CBE programmes but merely an adaptation to circumstances.
- (c) The fact that only fourteen students were enrolled in ADEd, might be viewed as too small a sample upon which valid recommendations could be based. However, the validity of the sample size should be interpreted in relation to the primary aim of the study of developing an appropriate CBE design and implementation framework for UNAM. The sample size in this case did not influence the programme *design or implementation steps* and a small sample could thus still be valid. It should be acknowledged though that the small student numbers allow more readily for the implementation of some CBE features such as assessment of competence and flexibility in pace.
- (d) The Namibia Qualifications Authority required changes to the second year of the diploma to meet formal recognition requirements. However, the criteria that they applied to the ADEd were based on traditional subject-based qualifications, which meant that some of the original ADEd proposed subjects and content had to be changed. Fortunately these changes in the course content did not affect the aims of this study, but it did send an important signal that programme design changes should meet the National Qualification Framework requirements.

- (e) The question could be raised as to whether a more recent example of a CBE oriented programme in UNAM should not receive preference above the ADEd case of 1999. In theory the answer would be affirmative, but the reality is that there were no other recent cases available to analyse since the ADEd was discontinued after the pilot. The international survey was therefore conducted to obtain current feedback regarding CBE design and implementation frameworks.
- (f) The cultural and political environment of the Faculty of Education where the ADEd programme was piloted had an influence on the extent to which CBE perspectives were incorporated into ADEd. Faculty leadership at the time, opposed experimentation with CBE programmes and ADEd task force members had to abandon some perspectives in order to improve chances of getting the pilot programme approved. The limiting effects of the context on CBE programme frameworks should be recognised but also the lessons learned from this when developing an ideal framework for UNAM.

Since these limitations are connected to the validity and reliability of the research these issues will be explored.

#### **4.9 VALIDITY OF THE RESEARCH**

Interpretive research with a focus on understanding of phenomena in context is currently accepted as valuable in its own right (Struwig and Stead, 2001:11). Until now some possible weaknesses regarding the research methodology of the study were already discussed (cf. Section 4.8). The physical, educational and historical boundaries of the ADEd programme are very clear and consequently no difficulties presented themselves when deciding what sources of data to incorporate or to exclude. Moreover, the researcher was part of the ADEd design task force, so access to the case study, documents and people was not a problematic issue. Since the researcher was at the time of the ADEd project functioning as a colleague and task force member and not as an outside observer, the danger of the Hawthorne-effect was eliminated.

##### ***External validity***



Mertens (1998:68-69) reminds researchers of external validity factors such as '*novelty and disruption effects*' and '*interaction of history and treatment effects*'. The introduction of the ADEd project caused a 'disruption' in traditional programme design which resulted in great resistance. However, the validity of the ADEd design and implementation framework was not impeded though the implementation *practices* were influenced negatively. The latter external validity factor involved the fact that a phenomenon (ADEd) was analysed at a particular time replete with contextual factors that could not be duplicated in another setting. Specific historical influences at the time of ADEd were poor relationships between Namibian lecturers and the *majority* of non-Namibian faculty members who wielded the decision-making power. The introduction of the ADEd ideas would have suggested that much of the expertise of the 'imported non-Namibians' was not needed. This caused great resistance to changing the status quo and prevented proper objective evaluation of new design and implementation perspectives. Admittedly, case study results could be rendered invalid by novelty or historical effects, but not so much in this case where the research results were a 'structural / process framework' rather than 'programme content'.

In accordance with Mertens' factors above Ary, et al. (2002:454-455) identify further external validity factors such as *selection* effects and *setting* effects. 'Selection effects' entail that the constructs being investigated are unique to a single group. Selection effects did not play a role in the ADEd since no unique features of a particular group were at stake. The 'setting effects' mean that results may be a function of the specific context under investigation. The proposal of a CBE programme design and implementation construct as the result of this study is not a function of the setting. It is a structural framework that could be applied to any programme design setting and can accommodate contextual needs but is not a result of the setting.

The *transferability* of qualitative research findings to other contexts is another external validity factor (Ary, et al. 2002:454). Although the aim of case studies is commonly an in-depth understanding rather than to generalise the findings, the following could be noted about the transferability possibilities of the ADEd framework: The extensive description of the ADEd design and implementation frameworks permitted determination of similarities with other faculties at UNAM. The transfer validity should however be made by the potential user of the findings and not by the researcher per sé. The fact that the research focused on a programme

design and implementation framework as ‘particular process steps’ rather than on ‘particular programme content’, enhanced the transferability of the ADEd design and implementation findings to other similar teacher education contexts and programmes in Namibia or perhaps elsewhere. This implies that the UNAM CBE framework might be transferable to higher institutions outside Namibia, for instance Southern Africa, that display some similarities to UNAM, such as multicultural staff and student bodies, similar teaching-learning resources, large class groups, political approval of the CBE paradigm and national pressure for relevant education and accountability. However, as the researcher did not study other African universities, the extent of the transferability of the UNAM CBE framework cannot be predicted.

### ***Internal validity***

Ary, et al. (2002:451) describes *internal validity* as the congruency of the findings with reality. The question therefore is whether the ADEd documents capture the reality of CBE design and implementation at UNAM’s Faculty of Education. Internal validity is enhanced through triangulation, long term observation and peer comments on the findings as well as clarifying the researcher’s assumptions and worldview. To minimise the influence of researcher bias and limitations of the conditions of the research, the following *ethical and professional standards* as identified by Sarantakos, (1998:22-23) were adhered to: The researcher accurately gathered all the relevant design and implementation data of ADEd via the documents as indicated previously. The appropriateness of an interpretative paradigm and case study design are motivated. The ADEd data is coded in terms of design and implementation perspectives as required by the aim of the study and interpreted against contextual and international perspectives. Data is not fabricated or falsified and the credibility is enhanced through the accurateness and truthfulness of the data.

The internal validity in qualitative research concerns moreover the *accuracy, truthfulness and credibility* of the findings. According to Ary, et al. (2002:452-454) evidence of credibility or internal validity is represented by the following five factors:

- (a) *Structural corroboration.*

When different procedures or data sources are in agreement, there is corroboration. In this study the ADEd design and implementation structures are corroborated with perspectives found in the literature.

(b) *Consensus.*

Given the evidence presented, is there consensus among peers or colleagues in the interpretation? The design and implementation framework ideas in the literature would also serve the consensus requirement of internal validity.

(c) *Referential or interpretative adequacy*

This refers to the degree which the participants' experiences or views are accurately understood and portrayed by the researcher. As the researcher was part of the ADEd task force, the documents of the task force can be expected to be interpreted correctly.

(d) *Theoretical adequacy.*

This concerns the degree to which a theoretical explanation developed from the study, fits the data. Strategies to promote theoretical adequacy are extended fieldwork, theory triangulation and pattern matching. Theory triangulation involves consideration of how the phenomenon under study might be explained by multiple theories. Pattern matching involves making pattern predictions based on theory and then a researcher determines the degree to which the patterns found in the data match the predicted patterns. This study integrated past and contemporary views about the inherent design and implementation features of CBE. Theoretical triangulation is furthermore combined with the ADEd and other fieldwork examples.

The term triangulation has come to refer to the use of multiple perspectives to check one's own position. There are four types of triangulation in research: *data triangulation*, *investigator triangulation*, *theory and methodological triangulation*. 'Data triangulation' refers to the use of a variety of data sources and this research adheres to this by discussing views of different authors from various countries. In the same vein 'investigator and theory triangulation' involve different researchers and multiple perspectives to interpret a single set of data. Theory triangulation is connected to

interdisciplinary triangulation. This study applied insights from different disciplines such as Adult Education, Learning Psychology, Management Science and Philosophy of Education to triangulate the features of CBE programmes. The use of multiple sources and methods in this research meet the methodological triangulation requirements (Creswell, 1994:167; Ary, et al. 2002:452).

(e) *Control of bias.*

Researcher bias may result from selective observations, hearing only what one wants to hear or allowing personal attitudes and feelings to affect interpretation of data. The two most common strategies to control bias are reflexivity and negative sampling. In this study the researcher identified personal biases that could influence interpretation of data. The inclusion of opposing ideas about CBE features and CBE programme design and implementation frameworks in this study was one way to control for possible bias.

The validity of the methodological instruments is discussed under section 3.4.5 and 3.5 where it was indicated that the use of the then existing UNAM student feedback questionnaire did not adequately measure the perceptions of students about the design and implementation features of ADEd. At the time of the ADEd implementation it was thought best not to introduce an alternative student feedback questionnaire but to use the existing UNAM one. The ADEd students completed the same questionnaire in several subjects and that contributed to the reliability of the questionnaire, but the validity of the student feedback questionnaire could be strongly criticised, as it was not specifically designed for obtaining feedback about the ADEd design and implementation.

The question that should be asked is to what extent the lack of valid student feedback influenced an accurate analysis of the ADEd and the proposal of an ideal CBE programme design and implementation framework for UNAM. The feedback from other stakeholders via the design analysis questionnaire, the acceptance of senate of the ADEd curriculum document, as well as the international perspectives could be viewed as allowing acceptable validity of the ADEd analysis and proposed frameworks.

#### 4.10 RELIABILITY OF THE RESEARCH

In quantitative research the term ‘reliability’ refers to the ability of instruments or methods to produce consistent results or to the extent which research findings can be replicated and yield the same results (Sarantakos, 1998:83). According to Ary, et al. (2002:455) and Mertens (1998:11) reliability (or dependability) for the qualitative researcher lies in describing and interpreting an experience as ‘those involved in the experience would do’. Reliability is thus influenced by the precision with which suitable methods meet the goals and the extent to which a researcher discusses data with other researchers to ensure objectivity (Sarantakos, 1998:83).

Sarantakos (1998:85) acknowledges Drew and others that distinguish actions to enhance *internal* and *external* reliability. With regard to *internal* reliability they propose the following steps or actions: use multiple researchers whenever possible; create an audit trail so that other scholars can relate the raw data with the conclusions; use participant researchers that can check the accuracy of perceptions. With regard to *external* reliability they propose the following steps or actions: clearly specify the researchers’ point of view that drove the data collection; clearly describe the setting boundaries and characteristics so that others can make judgments about similar settings; and specify the data collection and analysis procedures meticulously. Applied to this research, *internal* validity was enhanced through the availability of the ADEd primary documents that allow other researchers to audit conclusions drawn from this set of data. External validity was enhanced through the detailed description of the ADEd features as well as the data generating methods.

According to Ary, et al. (2002:455-456) additional strategies to ensure reliability involve the using of an *audit trail*, *replication logic*, *stepwise replication*, *code-recoding*, *interrater comparisons* and *triangulation*.

##### (a) *Audit trail*

This strategy is in agreement with Sarantakos listed above. An audit trail requires that the researcher keep thorough records of activities, procedures and results so that others can judge the dependability and replicability of the research. Applied to this study, the

researcher utilised a thorough collection of ADEd records as raw data upon which conclusions were based.

*(b) Replication logic*

Replication logic entails the conducting of the study in multiple contexts to test conclusions. Applied to this study, it could be noted that although the ADEd project was not replicated in other faculties of UNAM, the research findings of other CBE programmes in the literature were correlated with the ADEd case in order to propose reliable CBE design and implementation frameworks for UNAM.

*(c) Stepwise replication*

In the stepwise replication two researchers divide the data, analyse it independently and then compare results. This strategy was not applied in this study, however it is suggested that the reliability of this study was not negatively influenced by not using two researchers to analyse results, since the materials studied provided original data that might be used by other researchers to verify conclusions.

*(d) Code-recoding*

The code-recoding strategy involves the researcher coding the data, leaving the analysis for a period of time, then recoding the data and comparing the two sets of coded materials. In this study the ADEd task force compiled a design and implementation framework. The fact that the analysis of the ADEd design and implementation features occurred *post-hoc* with the benefit of hindsight and new insights gained from a literature review, might be viewed as some form of code-recoding of the design and implementation framework.

*(e) Interrater comparisons*

When multiple observers are involved in generating data through interviews, analysis of transcripts or video recordings, the measure of agreement among observers could be determined by calculating the ratio of agreements and disagreements. In the case of this study the researcher did not involve other researchers to assist him in interpreting the ADEd. As was mentioned however, in a way the views of different researchers in the

literature, the visiting Manchester colleagues and the consulted Australian experts' perspectives were utilised to analyse UNAM's ADEd experience.

*(f) Triangulation*

The last strategy, triangulation, involves the comparison of results from different sources and data gathering methods. Triangulation was applied as follows in this research: representative views of different institutions and experts were gathered; authentic and purpose related ADEd documents as primary sources as well as and secondary sources were included; programme design theory as well as practical implementation of programmes were combined to build theory for a UNAM CBE programme model; the setting boundaries and characteristics were clearly described and the researcher could not exclude certain data to influence the analysis, as several documents were triangulated and attached as appendices.

One aspect that has not been dealt with yet is the matter of ethics. Ethics influence both validity and reliability (Leedy, 1997:116). Two elements of ethics were relevant for this study: the protection of participants' legal rights and their right to be accurately informed. ADEd students' legal rights were protected in the sense that the pilot programme was to be recognised by the University of Namibia and the NQA. Secondly, both lecturers and students were informed about the CBE nature of the programme design and implementation and how it would differ from the traditional programmes. The initial design questionnaire disseminated to many stakeholders likewise questioned respondents about their agreement of the CBE features of the intended ADEd programme.

Reliability and validity are interrelated. If data generating instruments are valid they are expected to be reliable too. However, if data is reliable, it is not necessarily valid (Sarantakos, 1998:86). It is clear from a combination of the above-listed strategies that reliability could be affected by factors associated with the researcher, the research design, the respondents and the conditions of the study. It is suggested that this study adhered to a number of reliability strategies and that the results could be viewed as acceptably reliable.

## 4.11 SUMMARY

This chapter started out explaining research paradigms from a theoretical perspective. It was established why this study qualifies as being conducted within an ‘interpretive paradigm’. It was also discussed how the theory-building focus of this study favours a ‘case study strategy’ above a ‘programme evaluation study’. The reasons for selecting the ADEd case were clarified and the research problem and sub-questions were stated. The primary aim of this research is to develop a normative CBE design and implementation framework for a teacher-training programme at the University of Namibia by combining insights mainly gained from a local case study and supplemented by international perspectives. The research problem was highlighted by its key questions, namely:

- (a) How appropriate is CBE for the design and implementation of a teacher education programme at the University of Namibia?
- (b) What constitutes a design and implementation framework of a competency-based teacher-education programme?
- (c) How did the design of the ADEd programme correspond to the characteristics of such a CBE design framework?
- (d) How did the implementation of the ADEd programme correspond to the characteristics of such a CBE implementation framework?

The typical qualitative data generating methods of visits to people and institutions, questionnaires and document analysis were discussed. To generate the data required by the research questions the following methods were applied. To generate data for the first research sub-question (see ‘a’ above) the characteristics of CBE were identified through a literature review and critically discussed to determine the appropriateness of CBE for teacher education. To generate data for question (b) ten CBE programme design and implementation frameworks were analysed to create a synthesised design and implementation framework which incorporated CBE features. The synthesised framework (cf. Table 3.1) was expanded through further literature study (cf. Table 3.9) and finally validated through an international survey. In terms of generating data for the research sub-questions (c) and (d) the original ADEd design and implementation data were generated through methods such as stakeholder feedback on the ADEd design questionnaire



(cf. Appendix 3), feedback from a student questionnaire (cf. Appendix 6), analysis of relevant design and implementation documents and researcher observations as participative lecturer and co-ordinator of ADEd. In addition the *post-hoc methods* included the said literature review, external moderators' views, a visit to a number of Australian universities and an international survey regarding the proposed design and implementation framework (cf. Appendix 9, 10 and 11). The expanded and validated framework (cf. Table 3.9) was applied to the ADEd case in order to determine if changes should be made to it for the local UNAM context. Both the original ADEd methods and the post-hoc methods of validating the designed CBE framework are thus incorporated.

It was observed that the ADEd design questionnaire as well as the student feedback questionnaire was adequately but not purposefully designed to provide feedback about a CBE design and implementation framework and delivered therefore limited feedback about the programme design and implementation as some steps were not covered by the questionnaire questions, for instance, the 'rationale and administrative changes'. Documentary evidence in this case study played a central role as they revealed and captured more reliably the design and implementation processes involved in ADEd. These primary sources included amongst others minutes of the ADEd task force and Faculty Board, the ADEd curriculum document, the ADEd brochure and original design analysis questionnaire and feedback questionnaires from students. The 'design and implementation framework document' (see Appendix 5) lacked correlation with some of the CBE characteristics as spelled out previously (cf. Chapter Two, Section 2.3-2.6), resulting in not addressing some steps and activities per step as the literature suggested (cf. Table 3.9) The 'ADEd curriculum document' provided much information regarding the design steps, the assessment policy and practices, learning outcomes that include knowledge and skills, implementation schedule and format of the modules' content. The curriculum document neglected however to address 'performance criteria' and 'range statements' of outcomes as is typically done in CBE programmes. The application of the standard UNAM student feedback questionnaire was invalid since it was introduced by UNAM to serve the purpose of assessing a lecturer's performance and therefore produced insignificant data about the design and rather little data about the implementation framework of the ADEd. The generating of valid data about design and implementation aspects of the ADEd via the student feedback questionnaire was therefore low.

The literature review included material from primary and secondary sources that cover original philosophical and historical and latest research publications. Primary and secondary books, journal articles, case studies, and Internet publications were examined and issues discussed in relation to the aims of this study. Although the methodology applied with the international post-hoc survey was sound the response was limited. The feedback of the eleven respondents (summarised in Appendix 12) was positive and they found that the design and implementation framework steps and activities per step incorporated the CBE characteristics comprehensively (cf. point 1-6 of Appendix 12). Although the limited number of respondents could be criticised the confirmation of the proposed design and implementation framework from experts could be viewed in a similar light as accepting or rejecting a hypotheses.

The analysis of data entailed the coding of information into a design and implementation framework. In correspondence with the research sub-questions of the study, the literature data was amongst others *organised* to distinguish the features, appropriateness and limitations of CBE for teacher education programmes. The ADEd documents, particularly the “ADEd design and implementation framework document’ (cf. Appendix 5) served initially as ‘cognitive map’ to analyse ten CBE programme frameworks (cf. Chapter 3: Section 3.1) as this framework already represented a first level of coding (process steps) and subdivisions (activities). This analysis process highlighted new ‘process codes’ (steps) and ‘activity codes’ within the design and implementation steps that were synthesised into new frameworks and summarised in table format (cf. Table 3.1). This level of analysis provided a more ‘holistic picture’ of the design and implementation process for a teacher education programme than the original ADEd framework. A next level of analysis identified further possible process or activity codes (conceptual clusters) and the connections between them (cf. Chapter 3: Section 3.3) and this expanded conceptual framework is summarised and presented as Table 3.9. The final level of analysis of the CBE conceptual teacher education programme design and implementation framework involved triangulation via eleven international survey respondents who commented on the ‘process codes’, the ‘activity codes’ as well as the ‘connections’ between activities and steps (cf. Appendix 12).

The meaning of data was thus interpreted firstly, as being part of a design or implementation framework; secondly, to which particular step of a framework it belongs; thirdly, why it was important to be incorporated under a particular step and fourthly, what would be a logical

sequence for activities per step. Finally, the sequence of the particular steps within the design and implementation framework was interpreted as logical and plausible.

It was pointed out that the contribution of this study lies in synthesising different frameworks and ‘integrating loose standing issues’ such as ‘quality education’ ‘RPL’, ‘managing of change’ and ‘instructional management’ into a *systematic* design (addressing CBE theory) and implementation (focus on practices) framework (cf. Table 3.9) that is incorporating the unique CBE characteristics (cf. Chapter Three). The proposed synthesised framework is a first example for Namibia and UNAM has already adopted the design framework as well as the format of the module descriptors.

The chapter closed with a discussion of the validity and reliability of the research design and execution. The following concerns about the research methodology that might be perceived as limiting were discussed: The age of the case study; the size of the student cohort of the case study; the focus of the case study documents regarding design and implementation issues; the size of the original and post-hoc population from which feedback was gathered and the nature of the feedback obtained. The internal and external validity of the research methodology were analysed. The fact that the research focused on a programme design and implementation framework as ‘particular process steps’ rather than on ‘particular programme content’, enhanced the transferability of the ADEd design and implementation findings to other similar teacher education contexts and programmes in Namibia or perhaps elsewhere. The *internal* validity was enhanced through the availability of the ADEd primary documents that allow other researchers to audit conclusions drawn from this set of data. External validity was enhanced through the detailed description of the ADEd features as well as the data generating methods. Additional strategies applied to ensure reliability involved the using of an audit trail, replication logic, stepwise replication, code-recoding, interrater comparisons and triangulation.

The next chapter provides details of the ADEd design and implementation data.

## CHAPTER 5: PRESENTATION OF ADEd DESIGN AND IMPLEMENTATION DATA

### 5.1 INTRODUCTION

It was indicated in Chapter One that the Faculty of Education of the University of Namibia phased out the pre-independence inherited teacher education programmes from the time of independence in 1990. The new planned four-year B. Ed degree for secondary teachers still did not attend sufficiently to the existing competency problems according to some of the UNAM lecturing staff members. The B. Ed Honours degree was also phased out so that no postgraduate qualification existed for teachers to upgrade their qualifications. Therefore some lecturing staff felt that it was the appropriate time to consider a competency-based paradigm and proposed the introduction of a postgraduate, CBE programme, called the Advanced Diploma in Education. A document entitled “*Rationale for the introduction of an Advanced Diploma in Education*” was presented in March 1997 to the management committee of the Faculty of Education and permission was granted to proceed with the project. The task force consisted of six Namibian lecturers, three male and three female and represented four departments in the Faculty of Education (Memorandum of the Dean, Faculty of Education, UNAM, March 1997).

The task force members reflected on feedback from schools and agreed that the overriding concern appeared to be the lack of graduates’ school subject knowledge, poor English proficiency and ineffective management skills. In order to address these and other workplace needs, it was thought that a reflection on the tasks of teachers needed to be done. Clear outcomes would follow from this process and then the programme could be designed systematically from that point onwards. In correspondence with their understanding of CBE perspectives, the task force accepted that an input from external stakeholders would be important for both quality acceptance and approval of the pilot programme. The task force furthermore realised that quality education involves that programme content should be complemented by learning support and assessment policies in order to develop more competent teachers. The focus would be on less content and quality teaching-learning methods rather than on quantity of content. Against this backdrop a competency-based programme design were opted for.

This chapter delineates how and under what conditions the task force operated to construct a CBE programme. As such the chapter provides a description of the UNAM context in 1998 which is required by the sub-research questions (cf. Chapter One, Section 1.5) in order to evaluate (in Chapter Six) how the ADEd design and implementation framework correspond with a CBE framework and whether the proposed synthesised framework could be applied to the *current* UNAM context.

## **5.2 STEPS IN THE ADEd DESIGN FRAMEWORK**

In order to guide the planning of the ADEd programme, the researcher as member of the task force compiled a design and implementation framework that would allow a systematic approach to incorporate CBE perspectives into the ADEd programme. The following headings reflect the design and implementation framework used in the process (cf. Appendix 5).

### **5.2.1 Draft a broad time-activity schedule**

At the first official meeting of the ADEd task force on 15 April 1997, a time-activity schedule was compiled to ensure that the programme would be ready for submission to Senate in October 1997. The schedule was furthermore concerned with implementation activities and their deadlines. The date for submission of the programme to senate was used to guide the timeline of the planning meetings. There was no formal *planning schedule* for what should be achieved per planning session, rather at each meeting it was determined what tasks should be accomplished by whom for the next meeting. The *implementation schedule* was included in the final ‘curriculum planning and implementation document’ but is also presented separately as Appendix 4 in this thesis.

### **5.2.2 Conduct a needs / situation analysis**

The ADEd task force decided (ADEd Task Force minutes, 1997a:2) that the situation analysis would cover the following aspects listed in the ‘design and implementation framework document’: what stakeholders should be involved; analysis of the 1995 educational statistics; features of the target group; the general and specialist knowledge, skills and attitudes needed to

be included in the programme and what sources could be consulted to assist in designing the ADEd programme (cf. Appendix 5). The focus was thus mainly on addressing Namibian national teacher education needs. The 1995 statistics of the Ministry of Basic Education were used to determine the short and longer term need for secondary teachers who could benefit from ADEd. An analysis of the statistics identified some characteristics of the target group such as previous qualification structures and widely perceived shortcomings in order to address the implemented Cambridge national school programme. These needs underpinned the rationale of ADEd and influenced the admission requirements and a block mode of delivery as reflected by the ADEd 'curriculum planning and implementation document' (cf. Appendix 7).

The situation analysis further involved identifying what stakeholders should be consulted. The list included officials of the NQA, the under-secretary of the Ministry of Basic Education and Culture, the director of the National Institute of Educational development, regional directors, 34 schools, the four colleges of education, different teacher unions and all members of the Faculty of Education (ADEd Task Force minutes, 1997b:1-2). All identified stakeholders received the design analysis questionnaire (cf. Appendix 3).

### **5.2.3 Finalise the title and code of the qualification**

It is important for the title of a qualification to indicate the level of education as being a certificate, diploma or degree. This level specification implies meeting a particular scope and depth of a programme and accompanied contact or credit hours in correspondence with the NQA level in which it resorts. Since honours degrees were abolished at UNAM, the postgraduate pilot programme could only be labelled an advanced or further diploma in education (cf. Appendix 7). The NQA requirements for an Advanced Diploma were however based on traditional subject-based qualifications and some changes had to be made to the second year curriculum of ADEd in order to meet the existing criteria. Introducing a postgraduate diploma after abolishing honours degrees was an anomaly. The senate of UNAM accepted however that ADEd would grant UNAM students admission to a UNAM Masters programme, given that a 65 percent average was achieved (University of Namibia, 1997b:445).

#### **5.2.4 Formulate the rationale**

The ADEd rationale was based on the needs identified during the situational analysis. The ADEd ‘curriculum planning and implementation document’ (cf. Appendix 7) spells out the rationale clearly: ADEd would develop secondary teachers’ school subject knowledge and learner-centred teaching methodology in order for them to be able to teach the then newly introduced Cambridge H / IGCSE (Higher / International General Certificate of Senior Secondary Education) curricula and focus on teachers’ professional development. The *professional development* was addressed in the programme by modules on ‘School leadership and management’, ‘Professional development’ and ‘English for teachers’ (cf. Appendix 7). The rationale furthermore encompassed the preparation of candidates for master’s studies. The design questionnaire did not include a section requiring feedback about the rationale of ADEd and this could be criticised.

#### **5.2.5 Formulate the aims of the programme**

Since the ADEd task force opted for a CBE oriented programme in the situation analysis stage, the aims had to reflect this choice. The task force did not identify teacher’s roles and corresponding aims for each. Instead, *occupational tasks* were identified according to three broad categories: *Basic teaching skills*; *job management skills* and *contingency management and job environment skills*. The *basic teaching category* included school subject knowledge, instructional skills, understanding child development and learning theories and finally the ability to assess learning. The second category, *job management skills*, included a range of leadership and management topics (see Section 8, ‘Nature of the course’ in Appendix 7) that corresponded with the aims of the programme. The third category of *contingency management and job environment skills* focused mostly on environmental skills that were viewed to include professional, personal and interpersonal skills. For example, communication skills, managing stress and conflict were included in this category. The aims thus incorporated employers’ expressed needs by focusing on deepening school subject knowledge and instructional skills that would promote meaningful learning; improve school and classroom management; develop job environmental skills such as managing stress and conflict; and develop professional traits and attitudes. Not all the skills listed in the categories of the ‘curriculum planning and implementation document’ found their way as learning outcomes into the curriculum content. The development of school subject knowledge aims had to allow for electives such English, Business Studies, Mathematics,

Geography and Biology. Physical Science was not offered as indicated in the ADEd curriculum planning and implementation document (cf. Appendix 7, 'Overview of learning outcomes'). As in the case of the rationale, the design analysis feedback questionnaire did not include a section regarding the aims of ADEd.

### **5.2.6 Admission requirements**

The aims of a programme have a particular target group in mind and therefore admission requirements are designed accordingly. This applied to the ADEd as well. UNAM had the mandate to educate secondary teachers and the ADEd intended to upgrade such teachers in particular areas and school subject majors. Teachers offering scarce subjects such as mathematics and English, having a four-year teacher qualification and having passed an English proficiency test would be admitted to ADEd. It was decided that a maximum of 50 candidates would be enrolled, but after screening the applications, only 15 students met the admission criteria. Twelve students were from outside Windhoek and three from Windhoek. Twelve were male and three were female. All seventeen design questionnaire respondents agreed that the proposed language proficiency test should be part of the admission criteria.

### **5.2.7 Recognition of prior learning (RPL)**

The ADEd programme planning documentation proposed that the principle of RPL be accepted into the programme and indicated how it could be done. Credits would *not* be awarded for experience per sé, but for verifiable learning that occurred as a result of experience. It was however suggested that it would not be possible to implement RPL for ADEd because of practical reasons. The design analysis questionnaire did not therefore include RPL as an issue.

### **5.2.8 Determine bridging courses and procedures**

As in the case of RPL the issue of providing bridging (pre-entry) courses for students who would not qualify for admission was included in the programme design. The view underpinning bridging was to redress past practices and promote access to higher education. It was, however, not feasible to implement such courses for a pilot of ADEd. The type of questions that could be asked in connection with bridging courses are suggested in the curriculum planning and implementation framework document (cf. Appendix 7) and it was emphasised that such courses should *not* count for credits towards obtaining the qualification as was the case in the UNAM



four-year B. Ed degree. Fifteen of the 17 respondents agreed that there was a need for developmental courses. They also recommended that candidates should not be admitted to ADEd if they did not meet the requirements.

### **5.2.9 Specify the duration and delivery mode of the course**

The total hours or credits for ADEd had to meet the requirements of an advanced diploma as prescribed by the NQA. Although the 242 contact hours were accepted as sufficient, it was clear that the existing policies did not make accurate provision for the combined distance-lecturing block delivery mode of ADEd. The combined distance-lecturing block delivery mode was proposed by the task force to promote equal access to the programme for teachers residing outside Windhoek. Such access was a strong issue for the teachers unions at the time. The programme would only be offered for two years and interested candidates had to complete it in that time. Teachers had to attend a Saturday lecture session roughly every third Saturday, totalling 14 meetings per year as well as a three-day lecture session before the first meeting. Some design questionnaire respondents suggested that the 14 meetings per year might be too many and that it might influence the enrolled teachers' duties negatively. It was planned that the ADEd would be offered through distance and full time study after the pilot run.

### **5.2.10 Compile the curriculum**

This section of the ADEd design framework prescribed the subjects and the sequencing of the subjects for both years. The previous mentioned three-category inventory of skills described under the 'Nature of the course' section in the ADEd 'curriculum planning and implementation document' (cf. Appendix 7) served as the basis for grouping content into subjects per year. Under section nine, 'Curriculum overview' of the design framework (cf. Appendix 7), it is clear that although the number of subjects per year differs, the total contact hours were almost the same. Students had to enrol for two school subjects. These subjects attended to both the *subject content* on the higher level (H / IGCSE) as well as the *methodology* thereof. Subject titles such as 'Learning, Teaching and Assessment', 'School Leadership and Management' and 'English for Teachers' reflect a move away from traditional titles. The title 'Learning, Teaching and Assessment' in particular suggests the combination of topics from three subjects such as psychology, instructional science and assessment studies. Prerequisites were kept to a minimum.

The questionnaire respondents found the subjects appropriate (question 5.5 of the design questionnaire, Appendix 3) and rated the school subjects as the highest priority and educational research the lowest priority. The Senate of UNAM accepted the proposed curriculum but the NQA afterwards required changes in the second year to suit their subject-based advanced diploma programme criteria still in operation (National Qualification Authority of Namibia, s.a.:52). The second year programme increased the 'School Leadership and Management' periods to 38 to allow for specialisation. The proposed 'Professional Development' was then integrated with the 'School Leadership and Management'. The lectures for 'Educational Research' were also increased to 38 and the two half subjects 'Learning, Teaching and Assessment' and 'English for Teachers' were replaced by the subject 'Comparative Education' as a specialisation subject with 38 lectures.

Under Section nine, 'Curriculum overview' of the 'Curriculum planning and implementation document' the heading 'Module Title and Code' should have read 'Subject Title and Code'. In the UNAM context a module was offered and examined in one trimester. The ADEd full year subjects were seen as equalling the content of three modules but not examined on a trimester basis. The proposed skills and subjects reflect an occupational relevance approach and less typical subjects such as 'Educational Management', 'History of Education' or 'Philosophy of Education'.

#### **5.2.11 Pass requirements**

This section served to reflect on the various aspects of the learning assessment and promotion. As can be seen in Appendix 7, Section 11 under the heading *Pass Requirements*, the intension was to *assess every learning outcome* through short, non-grading tests / exercises on the one hand and a minimum of four continuous grading events on the other hand. The four grading marks consisted of three tests plus one assignment. The final pass mark would comprised 60 percent of the year mark and 40 percent of the end of year examination mark. The passing percentages of the grading exercises were 60 percent and if not achieved a candidate could get a second chance per exercise. The assessment records would reflect both first and second effort marks, but only the second mark would count. The admission to as well as passing the examination required 60 percent. The pass requirement for practical tasks could vary from 60 – 100 percent depending on what constituted a competency level for that task. A further hypothesis

was that the higher admission mark required a better understanding than the UNAM 50 percent admission mark and therefore supplementary examinations were not provided for. As all were experienced practising teachers and most of them outside Windhoek, no ‘teaching practice’ competencies were assessed. The assignments however required the application of theory to real classroom contexts.

Fifteen of the 17 respondents to the questionnaire were in agreement with the proposed higher pass requirements. The Faculty of Education Board and Senate accepted it as well.

#### **5.2.12 Further study possibilities**

This step in the design process of ADEd made provision for considering the articulation features with further qualifications. ADEd offered some specialisation subjects to go beyond initial teacher education and included the subject ‘Educational Research’ with the purpose of preparing candidates for Masters programmes at UNAM. Although the design questionnaire did not provide a section that required feedback on this matter, some respondents suggested through the ‘further suggestions / comments’ options that the provision to enter a Masters with the ADEd qualification was ideal.

#### **5.2.13 Teaching philosophy**

This design step required the task force to reflect on what learner-centred education and adult education entails and how it could be implemented. A proper analysis of how such features related to CBE features was not done. The design analysis questionnaire labelled the teaching philosophy as ‘competency-based’ and 12 respondents found it acceptable and one was opposed to it.

The above 13 steps were viewed as *design steps* and the next steps were labelled as *implementation steps*.

### **5.3 STEPS IN THE ADEd IMPLEMENTATION FRAMEWORK**

#### **5.3.1 Compile module descriptors**

The ADEd task force consulted various teacher education programmes, mostly subject-based, to ensure acceptable standards. The task force revisited the rationale and aims of the programme as well as the skills inventory to ensure that the module descriptors correlated with the findings of the original needs analysis. The aims were, however, not the only criteria considered for selecting content. The postgraduate level of the programme required some specialisation and the requirements of the NQA were considered as well. Some format headings were identified that could be used to develop module descriptors.

Section 17 of Appendix 7 displays the format and content of the module descriptors. Some headings that might provide useful information for stakeholders such as ‘additional costs’, ‘job opportunities’ and ‘learning tasks or topics’ were not addressed. A heading of ‘prescribed material’ was not added because such material had not yet been determined. The module descriptors content was outlined as *learning outcomes*, with a verb that suggested a desirable practical or cognitive level. Having *learning outcomes* was considered as reflecting a more accurate focus than having *topics*. The ADEd school subjects’ syllabi however basically followed the topic oriented school subjects’ syllabi. The task force also compiled the module descriptors of all other subjects / modules and the fact that the members were from different departments was helpful in this regard.

The module descriptors consisted of learning outcomes which incorporated a selected verb (cf. Section 17 of Appendix 7). The ‘learning outcomes’ could then be further developed by lecturing staff into ‘learning tasks’ as the example shows under Section 17 of the curriculum planning and implementation document (cf. Appendix 7). The task force deviated in this respect from the typical format of CBE modules having several ‘elements’ per unit where elements are developed by ‘performance criteria’ and ‘range statements’ Walton (1996:7-9). Lecturing staff were not compelled to develop the module descriptors outcomes but the module descriptors documents were to be disseminated to all students.

The design analysis questionnaire did not include sections on the implementation steps, but some feedback in this regard was obtained from the ADEd students via the standard UNAM ‘teaching evaluation’ questionnaire (cf. Appendix 6). Question 7 (a) on this questionnaire required students to rate ‘*the extent that clear instructions were given as to what was to be covered in the course*’.

Towards the end of the first ADEd year (1998) students' feedback for all their subjects on this question 7 was as follows: A =19, AB = 19, B = 11, C = 5, D = 1. The grading scale was: A = excellent, AB = very good, B = good, C = average, D = poor and E = very poor. The module descriptors distribution thus seemed to have been helpful to students.

### **5.3.2 Compile module outlines**

The planned content of module descriptors, specifying *learning outcomes* or *topics*, could be further developed into learning tasks / objectives. This detailed overview of the content could serve to guide lecturers and students alike when the content, available periods and resources for a particular subject is coordinated in a document referred to by some as a course outline. Such a course outline is thus a personalised and contextualised schedule that promotes effective implementation. The ADEd curriculum planning and implementation document submitted to the Faculty of Education and the senate did not include such 'course outlines' for subjects. ADEd students received the *module descriptors* but not course outlines at the commencement of the programme. ADEd lecturers could not develop the syllabus and learning materials between approval of the programme towards the end of October in 1997 and commencement of ADEd towards the end of January 1998.

### **5.3.3 Obtain feedback from an advisory group**

The task force took note of national stakeholders' needs at the situational analysis phase of the design. No DACUM process was however implemented. This step provided opportunities for many external stakeholders (see Chapter 4: Section 4.5.1) to advise the task force regarding the planned ADEd programme. A brochure of ADEd (cf. Appendix 1) was compiled and informed stakeholders about the aims, admission requirements, pass requirements, developmental courses, duration and delivery mode of the programme, the nature underpinning the programme as well as the prescribed subjects for the two years. A covering letter and questionnaire accompanied the brochure (cf. Appendix 2 and 3 respectively). The questionnaire was six pages long but reduced to three A5 pages and covered eight sections such as the title, admission requirements, developmental courses, duration and delivery mode, curriculum overview, pass requirements and

teaching-learning philosophy. It should be noted that the questionnaire did not have sections covering the rationale or aims of ADEd. The feedback obtained from these questionnaires is presented in Chapter Six.

Apart from the continuous involvement of the NQA as external stakeholder, UNAM student representatives submitted their views concerning ADEd on 26 September 1997 to the Faculty Board. The ADEd task force met later with these students to discuss their concerns. The UNAM Academic Planning Committee also provided feedback on 1 October 1997 before the final proposal was put to Senate.

#### **5.3.4 Design bridging courses and materials**

This step was included by the task force of ADEd in the design framework as an important step that should be considered for programmes, even though the intention was not to apply this step to ADEd. Such a step would require instruments to detect areas in need of development, considering where relevant material could be obtained and time, staff and cost implications of such programmes. Fifteen of the respondents to the design questionnaire agreed that developmental courses are necessary. The ADEd programme design itself addressed the areas that needed developing such as English proficiency and management skills, instead of introducing developmental courses.

#### **5.3.5 Design a timetable**

This implementation step involves the decision of a timetable for the programme that would accommodate both the circumstances of the target group and the institution. The ADEd timetable specified clearly the subject sessions per Saturday meeting for all 14 meetings. Dates were later assigned to the different meetings on the timetable. The assessment dates and handing in of assignments were also indicated on the timetable. The evaluation of the lecturers via questionnaires during meeting 14 was also scheduled on the timetable. As the programme was offered on Saturdays, it presented no problem to co-ordinate it with the existing UNAM timetable. The two-hour sessions per subject were meant to allow for group work, analysis of videos and teaching experiences as well as laboratory work.

### **5.3.6 Appraise required physical facilities**

At this stage the task force appraised the need for lecture rooms, office space, accommodation for students travelling to Windhoek, access to the library and student cafeteria. A meeting room with air conditioning was secured as a lecture room to support learning. Accommodation for students and an office for contract staff could not be organised, but access to the library posed no problem.

### **5.3.7 Appraise the need and advertise for staff**

As the honours degree was phased out at the stage of ADEd, the proposed education disciplines such as School Management and Learning, Teaching and Assessment, could be accommodated by permanent lecturing staff. The task force proposal regarding the teaching of the school subjects by experienced teachers with positive grade 12 examination results over three years, caused great disagreement amongst faculty members. It was only with the input of the Academic Planning Committee that the utilisation of teachers was approved. These teachers had to cover the grade 12 syllabi content as well as the teaching methodology in an integrated manner.

Advertisements about the need for contract staff were prepared by the task force and published by local newspapers during the first week in November 1997 (The Namibian, 1997:5). Appropriate interview panels were appointed that interviewed applicants for ADEd contract staff on 25 and 26 November (ADEd task force minutes, 1997c). The successful interviewees were informed about their appointment and contracts were entered into. The programme coordinator invited all Faculty of Education members (via a memorandum) to get involved in offering the new diploma. The memorandum explained that staff members could team teach the selected school subjects with the appointed teacher, or they could teach the educational disciplines (Memorandum of the ADEd coordinator, 7 November 1997).

Another type of staff need was addressed by the appointment of an ADEd programme coordinator to organise and communicate with internal and external stakeholders in order to ensure that the implementation proceeded effectively. Such a coordinator proved to be especially

vital as a link between the Faculty of Education and the new contract staff. It was also clear that administrative support should be available to the programme coordinator.

### **5.3.8 List and acquire teaching-learning resources**

This step involved the identification of teaching-learning materials for the ADEd programme. An overview of the proposed module descriptors assisted in identifying much needed resources. Two overhead projectors, video playing equipment and a flip chart were identified and acquired. The contracted teachers were asked to identify school and other textbooks that they would want their students to acquire and these were ordered. The applicable H / IGCSE syllabi were obtained as well. An agreement was reached with Academia High School for the use of their Biology laboratory, as it was their Biology teacher that was contracted for ADEd and the school was within walking distance from the campus. The duplication of learning material that was developed throughout the programme, had to be organised through the programme coordinator.

### **5.3.9 Draw up a budget**

This step provided the opportunity to calculate all additional expenses that the implementation of ADEd would require, such as advertising of the programme and for staff, teaching-learning equipment and materials, and payment of contract staff. Recognition of prior learning and bridging courses were not implemented and no costs were involved in these areas. The budget was included in the submission to Senate to reflect the income from student fees and the additional expenses involved in the programme implementation (University of Namibia, 1997b: 528).

### **5.3.10 Obtain Senate approval**

The date of the last Senate meeting for 1997 was an important target date for the ADEd task force right from the start. The ADEd curriculum planning and implementation document was therefore timeously submitted to the UNAM Senate of 22 October 1997 (University of Namibia, 1997b:426-464). The ADEd pilot was approved.



### **5.3.11 Advertise the course**

The task force prepared an advertisement concerning the introduction of the Advanced Diploma and that appeared in the local newspapers on 3 November 1997. The advertisement clarified the 15-Saturday delivery mode, admission requirements, the pass in an English proficiency test and closing date for applications as 14 November. The date for writing the English proficiency test was also specified, namely 26 November (The Namibian, 1997:5).

### **5.3.12 Staff training**

This step was thought necessary because ADEd incorporated some CBE characteristics that would be new to both permanent faculty members and contract staff. Thus philosophical and administrative issues had to be discussed. As indicated in the implementation schedule, the staff induction took place on 3 February 1998. Members received a name list of those involved in ADEd, the timetable, a brochure that provided an overview of important aspects of ADEd, and a three-page document clarifying 13 issues. These issues included some features of ADEd, such as where to obtain support, duties, payment, administering of student feedback forms and so forth (cf. Appendix 8).

At their first lecturing session the *students* were also orientated concerning the new dimensions of ADEd and how their learning role would be one of active involvement via analysis and comparison of information and experiences. The reflection on ‘how to get to an answer’ was emphasised as much as the ‘what’ and ‘why’. The orientation furthermore dealt with the subject names, codes, timetable interpretation, assessment system and how the design supported their circumstances.

### **5.3.13 Continuous staff and programme evaluation**

This step was interpreted to include the use of student feedback about programme content and lecturers’ performances; encourage self-evaluation by staff; interpret pass and failure rates; revisit programme aims and content and use all results to improve the design and delivery of the programme.

Lecturing staff was informed about the policy (included in their induction document). After three lecturing sessions they should administer the provided student feedback questionnaires. Lecturing staff had to analyse the feedback and discuss it with students. The purpose of the first feedback was developmental rather than evaluative, in order to detect problematic aspects and to improve thereon. Towards the end of the course the feedback exercise was repeated. These results were to be handed in to the programme co-ordinator so that the university could evaluate the performances of lecturing staff. The questionnaire that was used was the standard UNAM one and was not one designed specifically for ADEd purposes (cf. Appendix 6). The UNAM questionnaire focused on the performances of the lecturer and did not evaluate the ADEd design or implementation features as such.

Analysis of the end of the year (1998) questionnaire results indicated that the fourteen students rated all the lecturers as knowledgeable and the presentation of subject matter was also very positive. This means that the contract teachers offering the school subjects were not perceived to be less competent than the permanent staff. The subjects 'English for Teachers' and 'School leadership and Management' were found very useful because of their relevance for the Namibian reality. In the subjects 'Learning, Teaching and Assessment' and 'School leadership and Management' students rated the notes as 'useful', but some students suggested that prescribed textbooks should supplement the notes. One 'Biology' student rated the notes received as 'average' and the three 'Business Management' students and the ten 'English for Teachers' rated their notes as 'very good'.

Regarding the matter of an integrated content and methodology focus in the school subjects, the ratings via the 'other general comments' of the questionnaire, were as follows: The two 'Geography' students thought both content and methodology were covered well; one of the three 'Business Management' students suggested that the content focus dominated too much; the one 'Mathematics' student indicated that the content and methodology were covered well and the 11 'English' students commented positively on the methodology focus (University of Namibia, 1998).

#### **5.4 SUMMARY**

In order to guide the planning of the ADEd programme, one member of the task force compiled a design and implementation framework that would allow a systematic approach to incorporate CBE perspectives into the ADEd programme. This chapter has delineated the details of how the task force operated to construct and implement a CBE programme.

Firstly, the 13 design steps of ADEd were presented. This included the details of a situational analysis, the rationale and aims of ADEd as well as a description of the programme structure and assessment policy. Secondly, 13 implementation steps were described. The details incorporated the compilation of module descriptors, feedback from advisory groups, appraising the need for staff, facilities and learning resources and continuous staff and programme evaluation. Views of stakeholders who responded to the design questionnaire as well as feedback from students towards the end of the first year of ADEd were described as being integrated into the design and implementation steps respectively. The steps were described and not analysed in terms of scope, sequence or completeness.

Chapter Six that follows critically analyses the ADEd design and implementation process to answer the research question of ‘How did the design and implementation of the ADEd programme correspond to the characteristics of a CBE design and implementation framework?’

## **CHAPTER 6: CRITICAL ANALYSIS OF THE ADEd DESIGN AND IMPLEMENTATION DATA**

### **6.1 CRITICAL ANALYSIS OF THE ADEd DESIGN DATA**

Chapter Two, Section 2.3.4 and Section 2.4 (Table 2.2) identified the following unique characteristics of CBE that must be reflected by a design and implementation framework of a competency-based teacher education programme: (a) There are three models of the CBE paradigm; (b) certain philosophical perspectives permeate the programme design and implementation, for instance, ‘support to achieve success’ and the ‘integration of education and training’; (c) occupational roles from different categories are developed into exit and learning outcomes which serve as the starting point of a systematic ‘design down’ process; (d) outcomes as intended results are pre-specified and encompass knowledge, dispositions and competencies; (e) some or all of the programme content is organised into interdisciplinary modules rather than traditional disciplines; (f) learner-centred and constructivist-related teaching-learning perspectives are applied, emphasising trained staff, adequate resources, instructional modalities and individualised pacing; (g) assessment of knowledge and competence focus on deep learning and transferability; (h) detailed programme design and implementation documents are created that serve accountability and certification needs and (i) the recognition of prior learning is advocated to promote access to education. These characteristics should, therefore, be brought to bear in the analysis of the ADEd framework as they are incorporated into the synthesised framework (Section 3.4) depicted in Table 3.9.

In addition, the synthesis of CBE characteristics (Section 2.4, Table 2.2) as well as the comparison of SBE and CBE programme characteristics (cf. Table 2.3) provided distinctive CBE features that need to be integrated with the above characteristics by programme design and implementation frameworks, such as: (a) CBE defines ‘quality education’ as preparing persons for life; (b) qualification levels are determined by set standards which are developed with input from many key stakeholders; (c) the emphasis is on outputs captured by outcomes that focus on both society’s utility needs and student academic performances; (d) individualised progression is allowed; (e) lecturers are facilitators and develop self-directed learning of students; (f) integrated assessment focuses on both knowledge and performances and is criterion-based; (g) institutional

management structures and policies create a supportive learning environment to ensure a high rate of success for students. These distinctive features are often incorporated into the ‘common components’ of any programme design, namely: situation analysis; goals and objectives; selection and organising of content; selection of methods, techniques and media; selection and classification of learning experiences; planning and implementation of the instructional learning situation and the assessment of learners (Carl, 1995:94). It should, however, be recognised that although both subject-based and competency-based programmes may apply these components in each case, it is done in a vastly different way (cf. SBE –CBE comparison, 2.5). The component of ‘goals and objectives’ is for example, extremely important for a CBE programme where specified learning outcomes are the departure point for the design of the programme. However, in a subject-based programme goals and objectives may be specified but their nature differs and the same *connection* between them and the other elements of the curriculum might be weaker. This distinctive CBE implementation of the same common programme components necessitates therefore the highlighting of detailed exploration of design and implementation steps in order to provide a sound basis for analysing the ADEd framework. These characteristics will, therefore, also be brought to bear in the analysis of the ADEd framework as they are incorporated into the synthesised framework (Section 3.4) depicted in Table 3.9.

Chapter Six addresses the latter two research questions (cf. Chapter One, Section 1.5) regarding how the ADEd design and implementation framework corresponds with the characteristics (see paragraphs above) of a CBE framework. The critical analysis of the ADEd framework is undertaken in terms of its design and implementation framework, applying data of the expanded synthesised framework as in Table 3.9 and using feedback from the original ADEd ‘design analysis questionnaire’ (cf. Appendix 3), feedback from the student questionnaire (cf. Appendix 6) as well as the 2006 international survey feedback on Table 3.9 (cf. Appendix 10, 11, 12). The analysis per step focuses on three questions: What are the distinctive CBE characteristics as represented by Table 3.9? How did a particular ADEd step correspond to these characteristics? How would the *current* UNAM context impede or promote the application of a CBE framework? The analysis should provide data for conclusions in Chapter Seven about accepting or altering the proposed synthesised design and implementation framework for the UNAM context.

### 6.1.1 Managing change towards a new educational philosophy

The first analysis question requires a focus on ‘what are the distinctive CBE characteristics as represented by Table 3.9’? The first step ‘managing of change’ is not an inherent feature of CBE but a typical CBE related programme design step, proposed by designers who experienced with the turmoil of introducing CBE perspectives. The synthesis framework provided in Table 3.9 therefore advocates the management of change as a first step when CBE programmes are introduced. Literature (McCann, et al. 1998:197; Burke, 1989:129; Grant, et al. 1979:237) points out that the acceptance and design of a CBE teacher education programme proposes considerable change to a subject-based orientated higher education system and is normally met with human resistance. Changes comprise new beliefs about aims of higher and teacher education, new beliefs about the content, methods of teaching and learning and new standards and forms of assessment. In addition, policies about teaching, research, promotion of lecturers and their community service need to be adopted as well as administrative structures for developing, managing and evaluation of programmes. Ongoing communication and documents are recommended by this step to ensure that dealing with change is not neglected, thus becoming a limiting factor (cf. Section 2.6.3) for introducing CBE. Discussion of CBE terminology, national qualification frameworks, academic freedom and how the new system improves on the current one would also be helpful in managing the change.

The second analysis question entails ‘how does a particular ADEd step correspond to the CBE characteristics’? The ADEd design did not include a step regarding the management of change (cf. Appendix 5). Consequently, the ADEd task force failed to address the resistance to change in a proper manner, let alone produce relevant researched CBE documents. The task force furthermore initiated change which faculty management did not support and the project only continued because the appeal of the task force to higher academic management committees was successful. In retrospect the lesson is clear: faculty management should support change to be introduced successfully. Blunt and Cunningham (2002:133) corroborate that *heads of departments and deans* should support the change to CBE programmes and show commitment to a *process of ongoing internal communication* (see also Pliska and McQuaide, 1994:69) and cooperation while *negotiating transformation*. A single formal Faculty of Education meeting as in the ADEd case, could not qualify as ‘ongoing communication’. As the synthesis framework

(Table 3.9) suggests, McCann, et al. (1998:198) also found that *strategic planning* offers opportunities for such ongoing communication and assists members to own the changes. The ADEd task force did not perform a strategic planning exercise, which may be part of the reason why internal stakeholders could not be convinced to support the changes. Many external stakeholders (including two Manchester colleagues) however supported the ADEd programme on the basis of its documentation disseminated to them.

Against the background regarding the management of individual and organisational change (cf. Section 3.1 and Doll, 1996:307,314,319) it could be pointed out that the ADEd task force did not indicate adequately how the proposed changes would solve existing problems; no researched CBE data were disseminated and the goals of university education were not reflected upon in discussion groups. Furthermore, possible changes in lecturers' duties or policies of the faculty were not clarified; questions regarding what quality teacher education would entail and how the CBE would better meet those quality perceptions were not addressed. In the case of ADEd continuous and open discussions with faculty members regarding the theoretical and practical issues, e.g. epistemology / constructivist learning of CBE, were lacking. The Melbourne based CBE expert, Professor Bowden, visited by the researcher conveyed that their institution's discussions on 'how to improve the quality of teacher education' served the management of change well since many of the CBE perspectives were thus accepted without lecturers necessarily understanding or supporting CBE. Three respondents to the international survey also emphasised the importance of the management of change and that the reasons for accepting CBE should be clarified and discussed, although even then the question remains whose perspectives are accepted (cf. Appendix 12: Points 15, 16, 17). The clarification of why the CBE perspectives were built into ADEd had positive effects with the ADEd students and contracted teaching staff, which corroborates the necessity of communication about programme paradigms.

The third analysis question entails 'how the *current* UNAM context might impede or promote the management of change? Since ADEd in 1998 (only two years after the promulgation of the National Qualifications Act) the National Qualification Authority has grown into an important organisation and the concept of accreditation of qualifications according to NQA levels and standards are readily accepted. The UNAM top management as well as the Faculty of Education management are more susceptible to CBE perspectives if not out of free will, then because of the

legal consequences of not complying with national regulations. This implies that with support from management this framework step of ‘managing change’ could presently (2007) be applied with more success than at the time of ADEd. The current context would, therefore, be able to deal more effectively with ‘the change’ as a possible *limitation* of introducing CBE (cf. Section 2.6.3).

### **6.1.2 Drafting a programme development timetable and action plan**

In terms of the first analysis question about CBE characteristics, it could be pointed out that the systematic development of a CBE programme probably requires more time than developing SBE programmes, because of the CBE focus on extensive inputs from various stakeholders, on outputs more than inputs and accommodating society’s needs (cf. Table 2.3). The updated synthesis framework (cf. Table 3.9, step two) proposes a project time schedule as part of proper time management of programme development which is drafted by working backwards from the intended implementation date.

In terms of the second analysis question an overview of the ADEd *implementation schedule* (see Appendix 4) shows that the inexperienced task force listed mainly implementation activities to be completed after Senate approval of ADEd up to the end of the first year of implementation. Even so, that incomplete schedule proved to be valuable in directing the progress and action plans. In retrospect however, it is also clear that a more comprehensive schedule, including both *design* and *implementation* timelines and corresponding action plans, could be of better value. If the headings of the design and implementation steps are utilised it would be possible for designers to compile a comprehensive ‘programme development timetable and action schedule’ as the synthesis model proposes. Inexperienced designers would most likely not be able to compile a comprehensive schedule at the beginning of a programme design. If a framework with CBE design and implementation steps were available to a task force, a very accurate timeline and activities could be compiled. Design teams could note discrepancies between estimated time slots and actual time required. This update of the development timetable might guide the next project’s time estimates. The ADEd development was done in less than eight months. Such a timeframe seems inadequate and two or three years would be more realistic. The international survey elicited no dissenting perspectives regarding this step but it could be argued that



compiling a ‘time schedule’ might rather follow upon the situational analysis instead of upon the ‘management of change’.

The third analysis question entails how the *current* UNAM context might impede or promote the compilation of a programme development schedule. The fact is that current Faculty of Education management appreciates the importance of such schedules and the implementation of CBE would thus not be impeded in this regard.

### **6.1.3 Conducting a situation analysis**

The details of step three indicate – as it should according to CBE distinctive characteristics in Section 2.4 and 3.3, Table 2.2 and 3.9 – key factors on four levels which need to be accommodated. In addition, the overview of ‘effective teacher education strategies in developing countries’ (cf. Table 2.1) like the analysis of the ten frameworks, demonstrates that the situation analysis needs to focus on real ‘teacher needs’ apart from ‘theoretical considerations’. The following sub-headings of ‘characteristics of students’, ‘subject knowledge’, ‘societal features’ and ‘institutional factors’ address key ADEd factors on a national, international, institutional and module level.

#### ***Characteristics of students***

Any characteristic of targeted learners that might have a bearing on the programme design and implementation need to be considered by programme designers. Against the backdrop of Chapter Three, the following aspects regarding the accommodation of the characteristics of students might be noted: The ADEd admission requirements (cf. Appendix 7) specified particular previous qualifications which implied minimum levels of student *knowledge* and *experience*. The Saturday delivery mode of the programme accommodated the Namibian related *gender equality*, *access for all* and *financially viable* variables. Feedback from a teachers’ union (NANTU) on the original design questionnaire, expressed satisfaction about the possible access for rural candidates where the training needs were urgent. The use of national statistics at the time of ADEd informed the task force about the number of students that could benefit from such a programme for years to come. Feedback from the original ADEd design questionnaire was unanimous that the targeted ADEd teachers were perceived to lack English proficiency and

school subject knowledge. Both these variables were addressed: students had to pass an English proficiency test for admission and a subject 'English for Teachers' was made compulsory. The envisaged new B. Ed teacher education programme will emphasise 'English for Teachers' stronger than during ADEd and students will be certified as English proficient or not. The current UNAM context is, therefore, positively addressing some student characteristics which are a typical learner-centred view and focus of CBE. What is still lacking is the addressing of students' self-directed learning abilities.

An analysis of student characteristics also informed the development of bridging programmes, recognition of prior learning, admission tests or adaptation of modules to reach out to students existing levels. The ADEd steps correctly identified the issues of possible bridging programmes and the recognition of prior learning although this was not activated for the pilot implementation. All but one of the seventeen respondents to the ADEd design questionnaire supported the introduction of bridging programmes. Obviously, programmes should distinguish between what the programme should develop and what students should bring into the programme as a minimum prerequisite to ensure successful learning.

### ***Subject knowledge***

With reference to Chapter Three, Section 3.3, it was indicated that the depth, scope, organisation and relevance as well as views about the role (discipline science or fit-for-purpose) and types (mode 1 or 2) of knowledge are important aspects to consider in this regard. The ADEd content focused firstly on the occupational needs of a particular group of secondary teachers and addressed these needs by identifying competencies in three categories, namely 'basic teaching skills', 'job management skills' and 'contingency management and environment skills' (cf. Appendix 7, Point 8.12). These competencies were grouped into modules and knowledge underpinning competencies and further important knowledge was added to modules (cf. Appendix 7, Point 17 and further). The task force selected content that would achieve the competency-based aims, but the *depth* of the modular content did not receive adequate attention as it was not consciously scrutinised for substantive knowledge. A few of the seventeen respondents of the ADEd design questionnaire correctly so questioned therefore the academic depth of the programme content in terms of an 'advanced diploma' as part of a particular NQA qualification level. The ADEd experience underscores the typical limitation (cf. Section 2.6.3)

of CBE programmes that utility needs should be complemented with substantive knowledge to avoid a narrow occupational focus.

The organisation of knowledge in ADEd included both mode 1 and 2 knowledge (cf. Chapter 3: Section 3.3.1.2). The mode 1 examples are the ‘School Subjects’ and ‘Educational Research’ that adhered to the discipline structures. The other ADEd subjects, such as ‘School Leadership and Management’ and ‘Learning, Teaching and Assessment’ would rather qualify as mode 2 examples where knowledge spanned across disciplines and focused on ‘what is effective’ and ‘what works’.

In retrospect, it seems that keeping a balance between mode 1 and 2 modules would be an appropriate guideline for teacher / higher education instead of basing programmes only on mode 2 knowledge. Luckett (2001:51) also argues that higher education curricula should not become completely “...colonised by market values” because mode 1 knowledge has still a formative role to play, especially in undergraduate curricula, in “...inducting students into specific ways of knowing and thinking” but also because mode 2 knowledge production depends on multiple disciplinary foundations. Moreover, Luckett (2001:51) also contends that in *developing* contexts where the schooling system is poor, it is even more important to keep some mode 1 knowledge in the higher education system. The researcher agrees that because mode 1 knowledge underpins competencies a *new ratio* between mode 1 and 2 knowledge should be introduced in higher education programmes, rather than the replacement of mode 1 by mode 2 knowledge. This new ratio would reflect the CBE feature of ‘narrowing the gap between education and training’ (cf. Section 1.4.2 and Section 2.4, Table 2.2). Three respondents of the ADEd design questionnaire pointed out accurately that the development of competencies appears to be under-emphasised since no teaching practice was required of the practicing teachers. The current UNAM teacher education programmes also underemphasise the development of competencies though the envisaged new curriculum developments address this.

A third variable to be analysed as part of the situation analysis is *features of society*.

### ***Societal features***

At the time of the ADEd design, available national education statistics for 1997 were used in the analysis. The statistics reflected that there were not enough teachers for Mathematics, Biology, Physical Science and Accounting and ADEd therefore focussed on these areas. It should be acknowledged however that the analysis focus was perhaps more a needs driven 'reactive approach' than a creative 'proactive initiative' to manage future changes (Dubois, 1993:37) needed by the national context. Furthermore, global trends in higher education such as Information Communication Technology or the need for Life Skills teachers were not considered and could be criticised. The ADEd Saturday delivery mode was in line with the political society ideal of *access to education*, since students outside Windhoek could also participate. Some respondents of the original ADEd design questionnaire maintained that another target group, namely three-year college of education students (BETD) should have been the target group in terms of national needs. Other respondents observed that deficiencies in existing teacher education programmes should not be addressed by another qualification but rather by redesigning the existing ones. That might have been an accurate observation for the ADEd context which means the 'societal issue' as part of a CBE situational analysis was addressed, though not accurately enough.

Some dimensions of the 'society variable' need further attention, namely the 'massification', 'future trends and international concerns in higher education', a 'wider African society perspective', broad 'stakeholder input' in programme design and 'occupational standards analysis'.

### *Massification in higher education*

The massification of higher education in Namibia after Independence in 1990 resulted in changing conditions that required change of some nature on the part of UNAM to deliver on the political promises and goals in regard to national education, such as more access to education, equity, quality and equality in education, (Ministry of Education, Culture, Youth and Sport, Namibia, 1990:1-2). The researcher contends that the Namibian massification of higher education resulted in university policies to address access rather than addressing massification challenges on a broader scale such as international experiences depict.

The ADEd task force neglected to recognise or consider the challenges that massification introduces in higher education. It was therefore not considered how massification impacts on the number and profile of students; cause a stronger focus on occupational specialisation; emphasise accountable management of institutions and the use of technology to expand teaching endeavours. Although the task force addressed the need for ‘occupational specialisation’, this was done intuitively rather than being based on the cognitive understanding of massification. In a similar fashion the ADEd assessment regulations avoid one pitfall of massification by not lowering pass requirements (cf. Appendix 7, point 11) to deliver more graduates.

#### *Concerns and future trends in higher education*

Against the background of Table 3.3 and 3.4 in Chapter 3: Section 3.3, it is evident from the ADEd situation analysis step (cf. Appendix 4) that ‘international concerns’ and ‘future trends’ such as preparing teachers according to global standards; promoting lifelong learning skills; promoting local and global citizenship; and developing computer technology skills were not addressed in an academic manner and this could be criticised. Open ended feedback from the ADEd students (cf. Appendix 6) also expressed the need for a course on ‘using computers’. The current UNAM context addresses this need and all prospective teachers take a course in computer literacy. A positive benefit was that the ADEd programme responded to local needs; incorporated local indigenous knowledge; focused on accountability and realised that ADEd should be extended to a distance mode. In addition, ADEd focused on managing cultural diversity; emphasised quality services; English communication proficiency and cooperation with education stakeholders (cf. Appendix 7). The current UNAM context is, unlike the ADEd context, far more oriented towards global and future developments in teacher education and is guided by national standards for teachers that incorporate such global and future trends.

#### *A wider African society perspective*

Regarding different areas, including teacher education, there is an increasing cooperation between the Southern African countries. Although the ADEd task force addressed some Namibian teacher education needs they did not consider a wider African perspective. They did not, for example, consider directives about the role of the university and teacher education from a wider African society perspective. The design team could have analysed statements about the role of the African university in regarding what ‘citizenship’, ‘quality of life’ or ‘promoting

peace' entail and what modules could address such issues. Although the ADEd modules such as 'School Leadership and Management' and 'Professional Development' (cf. Appendix 7) included 'conflict management' and topics relevant to 'good governance', these topics were not included from the perspective of the *wider African society*. This wider perspective could be applied not only to 'content' but also to the 'recognition of qualifications'. Some respondents to the ADEd design questionnaire pointed out that the ADEd qualification should not merely allow students into Master's degrees at UNAM but also allow admission to regional and international universities' Master qualifications. The current teacher qualifications of the Faculty of Education do indeed address a wider African and international perspective and as such do not impede the implementation of CBE perspectives in this regard.

#### *Broad stakeholder input in programme design*

The expanded conceptual framework (cf. Table 3.9) emphasises the involvement of stakeholders. As indicated in Section 3.3, Gravett and Geysler (2004:152) suggest that a situational analysis should explore different levels: an international level, a national level and an institutional level. Such levels imply, amongst other things, the involvement of stakeholders from these levels. The involvement of stakeholders requires reflection on *who* should be involved and *how* and *when*. In regard to the *who*-question, the answer is *key internal and external* stakeholders. Typical institutional stakeholders are members of the faculty, university management and students. National stakeholders, African and international experts would qualify as external stakeholders.

Regarding the internal stakeholders, the ADEd task force involved the UNAM management via the academic planning committee, but neglected to involve students sufficiently during the design phase of ADEd. Only once the ADEd was implemented was feedback obtained from the enrolled as well as other UNAM full time students concerning the programme (cf. Appendix 6). Concerning the external stakeholders the ADEd task force consulted Namibian teacher unions, principals, regional directors and officials of the Ministry of Basic Education, Sport and Culture, NQA officials, Namibia Institute for Educational Development (NIED), the Directorate of National Examinations and Assessment (DNEA) and the Colleges of Teacher Education (cf. Appendix 3). The requirements of the Namibian Qualification Authority (NQA) regarding teacher programmes were closely observed, applied or negotiated during the situational analysis to ensure government approval and payment of teachers (cf. National Qualification Authority of

Namibia, 1998). Although the ADEd development process involved a wide range of national external stakeholders, these stakeholders should have been involved earlier. This view was corroborated by some respondents to the ADEd design questionnaire.

As far as the second question is concerned regarding *how* stakeholders are involved, a range of techniques were identified under Section 3.3 such as interviews, questionnaires, and a DACUM (Developing A Curriculum) process. Apart from a faculty meeting, the ADEd task force involved key external stakeholders through *interviews* before drafting the programme and then through *questionnaire* feedback about the draft programme. The ADEd version of a ‘dacum chart’ (cf. Appendix 7, Section 8.12) consisted of key teaching activities according to three domains, however the tasks were not related to roles, no relevant knowledge specified and some attitudes (but not traits) were identified. Using a DACUM process at the initial design stage, which involves both internal and external stakeholders, could have produced a better design. The current teacher qualification developments of the Faculty of Education do indeed value stakeholder input highly and as such the present UNAM context does not impede the implementation of CBE perspectives in this regard.

A further ‘society dimension’ that is closely related to the involvement of stakeholders and that needs to be considered is the analysis of ‘occupational standards’.

#### *Occupational standards analysis*

Section 3.3 proposes that teacher education roles should cover specified standards as an expression of a competent teacher. Such standards entail the specification and analysis of *roles* via an inductive approach. Identifying roles shift the focus from atomistic *tasks and procedures* to a more holistic *purpose and outcome* of ‘graduate and competent worker’ (cf. Section 3.3) and ensure programme content is less likely to be de-contextualised.

The ADEd task force departed from a *functional task analysis* instead of a *teacher role* analysis. The task force members followed an Australian competency-model of TAFE (1992:15) of New South Wales and compiled lists of tasks according to three domains, namely: (a) Basic teaching skills, (b) Job management skills and (c) Contingency management and job environment skills. This model does not make provision for the identification of wider / general roles of a teacher

such as ‘*an interpreter and designer of learning programmes and materials*’ and ‘*a community, citizenship and pastoral role*’ and therefore the ADEd programme did not focus adequately on ‘general teacher roles’. The accepted National Professional Standards for Teachers (Ministry of Education of Namibia, 2006:1-117) indeed advocate teachers as ‘community developers’, ‘change agents in the community’ and as ‘model citizens’ which means the current national context supports the CBE oriented wider role of teachers. The task force did not critically analyse what type of roles should be included in an ‘advanced’ programme as opposed to an ‘initial’ teacher training programme. Neither did the ADEd programme include Jessup’s (1991:27) ‘less tangible aspects of competence’ such as personality traits and attitudes / values that contribute to being successful in a job. In response to the ADEd design questionnaire the National Institute for Educational Development also emphasised the need for inclusion of attitudes such as learner-centred attitudes, self-reliance, resourcefulness, critical inquiry and analytical thinking. Three key stakeholders commented on the initial design analysis questionnaire, that the *depth* of the ADEd programme did not match the intended advanced level. This was probably an accurate observation because the programme focussed too much on local needs and tasks, rather than departing from occupational roles.

A fourth category that forms part of a situational analysis is ‘institutional factors’.

### ***Institutional factors***

The expanded framework as displayed by Table 3.9 includes the analysis of institutional variables. Institutional factors incorporate views on goals of teacher education, views on teaching and learning, curriculum orientations, funding available, the organisation of knowledge and leadership and management practices, qualifications of staff, staff development, physical facilities, and availability of teaching-learning resources. The ADEd task force perceived that the programmes in place at that stage did not adequately develop competent teachers and that the introduction of some CBE perspectives such as an occupational analysis, could improve the competency of teachers. The ADEd ‘School Subjects’ (cf. Appendix 7) provided opportunities for practical application of knowledge, but should have been supplemented by assessment of students’ school-based experiences. The task force however analysed the costs involved and planned for the acquisition of staff, teaching-learning materials, bridging courses, recognition of prior learning and a timetable. Other important institutional variables such as changing policies,



discussing quality teacher education or the organisation of knowledge in ways other than disciplines were not addressed.

The respondents of the international survey expressed no criticism against the details or sequence of the situational analysis step. They concurred however with the importance of stakeholder participation (cf. Appendix 12: Point 23). Step three of ‘conducting a situation analysis’ needs to be early on in the framework since all factors influencing the ‘design down’ of the programme such as NQF regulations, features of learners and an occupational analysis, are then addressed. It could be asked if the ‘situation analysis’ could be the first step in the design framework rather than the third step. The researcher contends that having the ‘situation analysis’ as first or even second step rather than third would not alter the characteristics of CBE captured by the ‘situation analysis’. The apparent linear framework steps are interconnected and therefore rather cyclical. This means that some steps build upon previous steps and some steps could run almost concurrently with another step. For example, programme designers might perceive a teacher training need and start to investigate it – a typical ‘situation analysis’ feature. If the need is confirmed by some stakeholders a comprehensive situation analysis could be initiated by compiling a ‘programme development schedule’. In a similar cyclical manner the ‘management of change’ could be started before the ‘situation analysis’ is completed. It makes sense that the ‘management of change step’ could be clear in purpose once the situation analysis established what should be addressed.

On the whole, the ‘situation analysis step’ of ADEd addressed some key factors on the international, national and institutional level, fail to address other important factors on the same levels, such as in-depth understanding of CBE limitations. The ADEd situation analysis focused strongly on ‘occupational needs’ such as ‘subject knowledge’ and ‘management skills’ and not enough on the broader dimensions of a ‘situational analysis’. Therefore the role, nature and organisation of knowledge were not examined; CBE were not researched well enough; epistemological and learning theories were not addressed; the goals of higher education and the UNAM institutional context not examined. Furthermore, strategic planning was not done and a broad enough range of internal and external stakeholders were not involved *early* enough in the situational analysis, for instance, in a DACUM workshop.

The ADEd experience emphasised both the appropriateness and importance of a comprehensive situational analysis step undertaken early in the curriculum development process. The current UNAM context is very supportive of a thorough situation analysis and the curriculum committee members have a deep understanding of the advantageous and limiting characteristics of CBE. This means that the current UNAM context would not impede the application of the situational analysis step of the synthesised framework.

#### **6.1.4 Finalising the title, level, duration and code of the qualification**

The expanded design framework (cf. Table 3.9) indicates that these aspects are addressed as a fourth logical step. The title of a programme commonly reflects the type and level / status of the qualification as being a *certificate, diploma or degree*. In terms of the first analysis question, CBE characteristics to be observed in this step are the reflection of the minimum standard requirements of the applicable national qualification framework. Other CBE characteristics are that the duration of a CBE programme is not necessarily finalised in advance but rather after adding up the time required by all the modules and keeping in mind the required minimum number of hours for a degree or certificate.

In regard to the second analysis question, the title ‘Advanced Diploma in Education’ clearly signified the level but the task force realised that their individual, as well as the institutional understanding of the boundaries between advanced diploma and degree were not established clearly. What a certain level qualification should incorporate was compounded by the fact that the nature of ADEd was different from the traditional qualifications because of its stronger utility and competency content with resultant interdisciplinary modular organisation thereof. What could not be ignored were the subject-based NQA qualification requirements for an advanced diploma which specified a minimum of one year full time; at least five subjects and specialisation in at least one pedagogical discipline and one school subject (National Qualification Authority of Namibia, s.a.: 42-43).

Fourteen of the seventeen respondents to the ADEd design questionnaire were satisfied with the title of ‘Advanced Diploma’. Students however preferred it to be a ‘degree’ or ‘Honours degree’. More importantly, some questionnaire respondents raised the issue of having four-year B. Ed

degrees with specialisation options rather than having another qualification which addressed specialisation areas. The ADEd was thus perceived by some respondents as an unnecessary duplication. Having B. Ed degrees with specialisation is nowadays fairly common, however at the time (1998) of ADEd, such degrees did not exist and ADEd was therefore not an unnecessary duplication.

The ADEd programme focussed more on *what* local needs to address and initially neglected the *level* requirements of an advanced qualification. Two important lessons could be learned from this lack of focus on the level of a qualification: Firstly, qualification level indicators should guide programme designers on the differences between, for instance, diplomas and degrees and secondly, it is a complex challenge if new institutional programmes do not match local NQA specifications. The ADEd task force performed well by appropriately involving the NQA, an initiative not done before by the faculty. The particular NQA-recognised-status of the ADEd programme was made clear to students since that status was directly related to their future level of income and further study possibilities.

The international survey feedback offered no criticism against this step. The feedback emphasised however, the importance of observing the requirements of the NQA (cf. Appendix 12: Point 24). In regard to the third analysis question it could be stated that the current UNAM context has clear NQA qualification and level descriptors which promote the implementation of this CBE step.

Once the level of a qualification and the accompanying requirements were clarified, the design team could proceed to the next step of formulating the programme purpose or rationale.

### **6.1.5 Formulating the rationale**

To have a rationale which states the main goals of a programme is a step applied by most programme designs. The unique features of CBE are, however, becoming clear through the *nature* of the rationale. Typically a CBE rationale covers goals related to ‘general’ and ‘occupational’ education covering ‘student and society’ needs (cf. Section 2.3.4.2, Section 2.5 and Table 2.3). Having a rationale is also in line with having ‘exit outcomes’ as a ‘result

orientation' characteristic of CBE. With reference to Table 3.9, any Namibian teacher education programme designer needs to ask the question: What kind of graduates, citizens and employees does the Namibian society need? The answer to this would indicate what kind of knowledge, skills and values teachers should acquire in a particular qualification. The use of an 'occupational competence role' model could be helpful in this regard (cf. Section 3.3.1.2, Table 3.5). The challenge is to decide on the ideal mix between local, African and international requirements for different qualification levels, for instance: to be responsive to identified national needs; to consider international and future trends in higher and teacher education; to address a range of occupational competence roles; to balance occupational roles with general education roles; to provide broad access while ensuring quality education; to reduce teacher attrition by focusing on education-related career options; to provide preparation for further studies; to indicate the desirable personal qualities and values; to relate to the vision and mission of the relevant Ministry and Faculty of Education and to avoid duplication of other institutional programme purposes (cf. Table 3.9).

How does the ADEd framework correspond in this regard? The ADEd was introduced for a number of reasons which were clearly delineated (cf. Appendix 7). The rationale strongly addressed the perceived Namibian needs of the time and thus met the criteria of contextualisation. A further positive feature of the rationale was that it attended to the career path (and thus the attrition rate) development of students via the incorporated three subjects that would have been beneficial for students' further career development, namely: Educational Research, School Leadership and Management and Professional Development (cf. Appendix 7). The first subject prepared them for Master studies and the latter two for becoming heads or principals. The ADEd rationale was however not compared to the Faculty of Education mission.

Moreover, the ADEd rationale neglected to encompass 'general educational roles' in order to balance workplace and advanced graduate requirements. Consequently, roles such as citizenship, being a community development agent / leader, developer of values, addressing issues such as AIDS, drugs, entrepreneurship, obesity and healthy living, developer of thinking skills, developer of emotional intelligence, developer of generic employable skills, managing diversity, were not attended to. In terms of international and future trends in higher and teacher education the ADEd also failed to focus on computer technology, developing ethics, managing cultural

diversity, or lifelong learning skills. In addition the ADEd rationale did not attend to desirable personal qualities and values, for instance, open-mindedness; patience, commitment to quality; compassion and empathy; strong ethics; being a team player; confident; trustworthy; honest; respecting others; democratic; accountable and being a role model. The ADEd design questionnaire did not include the 'rationale' and this could be strongly criticised since stakeholders input in this regard was crucial. Feedback on the international survey emphasised that a too narrow academic focus must be guarded against (cf. Appendix 12: Point 19) thus warning against one of the most serious possible limitations of CBE. The current (2006) national standards for teachers developed under the auspices of the NQA guide the scope of the rationale of CBE teacher education programmes in the UNAM context to some extent.

#### **6.1.6 Formulating the exit outcomes of the programme**

The first analysis question focuses on the distinctive characteristics of CBE, one of which was identified as having 'exit outcomes' (cf. 2.3.4.2). The exit outcomes impact on the quality and the length of a programme since they are the building blocks which establish a picture of 'what is desirable' from which a programme is designed down. The higher the level of a qualification the more of the following characteristics will be reflected by the exit outcomes: "...*breadth and range of competence; complexity and difficulty of competence; requirement for special skills; ability to undertake specialized activity; ability to transfer competences from one context or work environment to another; ability to innovate and cope with non-routine activities; ability to plan and organize work; ability to supervise others*" (Jessup, 1991:21). These programme and therefore outcomes characteristics emphasise breadth (the range) and depth (specialisation) but furthermore demonstrate subscription to a debatable four-category occupational competence model: (a) routine or basic roles; (b) work environment roles; (c) contingency or non-routine roles; (d) management roles (Jessup, 1991:27). The researcher argued under Section 3.3.1.2 that although this model covers an occupation's breadth, it does not address possible *general roles* such as 'citizenship' or 'community development agent'. Under Section 3.3.1.4 it was indicated that exit outcomes are commonly expressing 'performances' rather than focusing on knowledge, traits and values. The researcher maintains that exit outcomes should also include some focus on knowledge, traits and values to capture those educational goals that are not linked to a particular competency. The 'formulating of the exit outcomes' step (cf. Table 3.9) allows for the latter focus by using the terms 'mainly competencies'. This might, however, not be clear enough to

warn designers against one of the possible limitations (cf. 2.6.3) of CBE which could be promoted by the 'to do nature' of exit outcomes.

How does the ADEd framework correspond in this regard? The ADEd curriculum planning and implementation document (Appendix 7) state 'aims' for the programme (Section 3) and later state 'core skills' (Section 8.12) that are actually 'exit outcomes' but not labelled as such. These ADEd 'exit outcomes' in Section 8.12 of Appendix 7, were not linked to separate roles but rather to three categories of 'basic teaching skills', 'job management' and 'contingency management and job environment skills'. ADEd thus combines two of the above Jessup categories of competence but still failed to incorporate (as previously indicated under the 'rationale'), one of 'general roles'.

The ADEd task force identified eight programme exit outcomes (Appendix 7, Point 3) that correlated well with the rationale. The exit outcomes in addition related to the titles and content of the modules and were unambiguous statements of *competencies that mattered in the long run*. Under Section 3.3.1.4 it was indicated that exit outcomes are commonly expressing 'performance outcomes' rather than focusing on knowledge, traits and values. At least three of the programme exit outcomes incorporated some 'generic competencies'. The ADEd exit outcome 3.4 that focused on management and 3.1 that focused on subject expertise provided for the NQA required specialisation areas. The exit outcome 3.7 catered for the development of higher education goals such as open-mindedness, self-appraisal and critical thinking (Appendix 7, Point 3). In addition, the ADEd outcome 3.8 expressed the intention of developing a 'professional attitude' which is focusing on attitudes rather than an 'able to do' feature. The exit outcomes addressed the local and some higher education needs, however neglected to address relevant global needs such as HIV/AIDS. The professional development and job environmental focus of the exit outcomes as well as the management, critical thinking or research oriented outcomes contributed towards 'future oriented' needs. 'Computer literacy' was listed as a future related outcome, but such a course could not materialise.

The ADEd design questionnaire did not include a section on the 'exit outcomes' and this could be criticised since stakeholders input in this regard were necessary. The respondents to the international survey did not oppose the idea of having an 'exit outcomes step' per sé or the

position of the step in the framework. Neither did they comment on the scope of the proposed outcomes apart from highlighting the danger of a narrow focus (Appendix 12, Point 19). The researcher contends that the option of combining the ‘rationale’ and the ‘exit outcome’ step into one needs to be examined since they both set the direction of the programme. The current UNAM context made the change from ‘goals’ to ‘exit ‘outcomes with low resistance from staff since the national standards for teachers project raised the awareness of ‘exit outcomes and performance criteria’. The use of exit outcomes as CBE feature is, therefore, not impeded by the Faculty of Education context.

### **6.1.7 Determining the admission requirements**

Chapter Two reflects that CBE focuses on ‘student and society needs’ (cf. philosophical perspectives, 2.3.4.1, Table 2.3) and another distinctive characteristic is ‘broader access’ (cf. 2.6.2). These unique features of CBE relate to ‘admission requirements’ (cf Table 3.9) that address broad access through bridging and RPL, consider the articulation between the schooling and higher education system and reflect on how the perceived features of the targeted student population match the actual admission requirements.

Many of the programme examples (cf. Section 3.1) that were analysed to create the synthesis framework (cf. Table 3.1) underemphasised this step. Foxcroft, Elkonin & Kota (1998:11-23) of South Africa, however, observed this step and include furthermore the important issue of recognition of prior learning. Geysers (2001:32) suggests ‘academic and administrative standards’ for the implementation of recognition of prior learning and Jessup (1991:60-61) augment these suggestions with ‘conditions and arrangements’ for doing so. The point is that institutions need to examine RPL models and procedures and start to develop their own system at this point of programme design in order for it to be applied at a further implementation step of ‘selecting students and staff’.

Apart from programme design that could make provision for perceived student deficiencies via the inclusion of relevant mode 1 knowledge, there are developmental / bridging courses that could be offered. Students would then qualify for admission to programmes once these developmental courses were completed successfully. Programme designers apparently need to be clear whether their institution is willing to introduce or maintain such costly programmes.

How did the ADEd correspond to the CBE ‘admission features’? UNAM did not have RPL policies and procedures in place when the ADEd programme was implemented. The ADEd design framework steps however recognised that in future more adults would return to education or change careers and thus reflected that RPL might be implemented at this stage. The primary RPL purpose at that time was specified as receiving credit towards a programme and other possible purposes of RPL were not considered. It is commendable that the ADEd steps incorporated a RPL model even though it was only in theory. A reflection upon the articulation between the schooling and higher education system was not necessary since the ADEd targeted students were not school leavers but graduated teachers. This issue is very important though for the current UNAM context.

The ADEd design steps presented ‘admission requirements’, ‘recognition of prior learning’ and ‘determining of developmental programmes’ as three separate steps (cf. Appendix 5). Although having three separate steps might not be erroneous, the synthesised framework combines the first two and addresses ‘bridging’ later under the implementation steps. The ADEd admission requirements and criteria were spelled out in detail (cf. Appendix 7, Section 4) to attract the targeted practicing secondary teachers. As indicated previously, some respondents suggested that the target group should have been teachers with three-year qualifications as that would have served a larger group of teachers. Some students questioned the necessity of the ‘three years teaching experience’ requirement. The respondents to the original ADEd design questionnaire agreed unanimously with the English language proficiency admission requirement. Some respondents pointed out – and logically so - that the required pass symbols in grade 12 school subjects of applicants were irrelevant for an ‘advanced qualification. The ADEd admission criteria were comprehensive and included preference for ‘scarce subject teachers’ and ‘full time’ students, the striving for ‘gender and regional balance’ and criteria for selection in case of over subscription to the planned 50 (cf. Appendix 7, Section 4).

With reference to the previously mentioned admission prerequisites of Blank (1982:44-52) the ADEd admission requirements focused mainly on the categories of *previously learned skills* and *previously learned knowledge* (cf. Section 3.3.1.5). The ADEd requirements also incorporated the NQA and institutional criteria for an advanced diploma in terms of qualifications and years of experience. The required three years of experience and offering of particular school subjects



plus the English proficiency test can be viewed as ‘occupational’ admission criteria. From a quality assurance and admission procedures perspective, students were required to write an English proficiency test. This test included a few paragraphs on students’ motivation for enrolling in this course and a comprehension test. The relevant test was made available to all regional offices of UNAM and deadlines for completing the test were also advertised in local newspapers. Marking of the tests was done promptly and students informed about their success long before final registration for the programme (cf. Appendix 4). The ADEd task force had introduced and successfully completed new admission criteria and procedures that had never been done before in the Faculty of Education.

The third analysis question for each step requires reflection about the appropriateness of the proposed framework for the UNAM context. All but one of the respondents to the ADEd design questionnaire thought there was a need (1998) for bridging programmes. The researcher asserts that this need still exists given the developing status of Namibia and the varying quality of schools. The current UNAM context is in favour of some form of bridging support for students and the first semester modules of all students cover ‘English communication and study skills’, ‘Computer literacy’, ‘School subjects’ and Contemporary social issues’ (University of Namibia, 2006:10). An English proficiency admission test is, however, not yet part of the current admission requirements for teachers. The international survey responses indicated that attention to the ‘phasing in and phasing out implications’ should be addressed under this step rather than under step ten about the programme structure as proposed (cf. Appendix 12, Point 25). The researcher asserts that ‘phasing in and phasing out implications’ are not an integral part of admission requirements. The sequence of the ‘admission requirements step’ could be questioned. One could argue that this step seven could fit into the framework after step ten which deals with ‘establishing of the programme structure’ because having an overview of the content (step 9) and structure (step 10) of a programme might impact on the type of admission requirements. On the whole, the CBE perspectives incorporated by the ‘admission step’ are mostly already implemented in the UNAM context and the shifting of the position is more a matter of flexibility than principle.

### **6.1.8 Selecting the delivery mode**

The question needs to be asked whether there is a distinctive CBE feature regarding the delivery mode of a programme. Chapter Two seems not to suggest a distinctive feature in terms of the delivery mode. One could deduct perhaps that the CBE perspectives regarding ‘individualised pace’ or ‘broader access’ or serving ‘student needs’ might be brought to bear here. The ‘delivery mode’ does not refer to the ‘modes of instruction’ like lectures, but to the broader modes through which a programme could be offered. Such modes include full time, part time, distance or online education or a hybrid of these.

The expanded framework summarised in Table 3.9 suggests that Step four incorporates the ‘duration’ of the programme and differs therefore from the ADEd step that dealt with ‘duration’ as part of the delivery mode step. To accommodate both institutional and student circumstances the ADEd was presented as a full time after-hours programme over two years (cf. Appendix 7, Section 7 & 8). Fourteen of the seventeen respondents to the ADEd design questionnaire found this mode and duration acceptable although some students’ feedback revealed that the Saturday meetings were too long and exhausting. This mode allowed broad access of the targeted *practicing* teachers to attend and more so for those students residing outside Windhoek. It furthermore appeared to suit the facilities of the university and the staff involved. At that stage online education was not considered as an additional or alternative delivery mode but the plan was to deliver ADEd via distance education on completion of the pilot. The international survey respondents expressed no criticism against this particular step. One could argue, however, that flexibility regarding the position of this step is possible without altering the characteristics of CBE. For instance, it could (like the admission step) move till after the proposed step ten regarding programme structure because having an overview of the content (step 9) and structure (step 10) of a programme might impact on the modes of delivery. The current UNAM context focuses on facilitating access to as many students as possible through different modes and the implementation of the CBE framework in this regard will not be impeded.

### **6.1.9 Compiling module descriptors and course outlines**

Section 2.3.4.3, the synthesis of CBE features (cf. Table 2.2) as well as the comparison between SBE and CBE programme features (cf. Table 2.3) identify the organisation of content into ‘modules’ as a distinctive feature of CBE. Modules often have an interdisciplinary nature and particular format (cf. Section 3.3.1.6.) where exit outcomes are developed through performance

criteria and range statements (cf. Table 3.6 - 3.8). It is also positive that the ‘module descriptor step’ (step nine) addresses a possible CBE limitation of ‘incoherent knowledge’ and that a ‘workplace learning’ (Teaching Practice) module descriptor which aims to develop competence (unique CBE feature), is also emphasised by this step.

The synthesised framework (cf. Table 3.9) incorporates these features as step nine and opts for the perspective that the development of content and therefore modules precedes the structure of the programme, although an analysis of the ten programme frameworks indicates that CBE designers differ about the sequence positioning of ‘compiling module descriptors’. The researcher asserts that because CBE designs depart from identified needs and standards the compilation of module descriptors needs to be done before the programme structure (step ten) which is based on such standards. The ADEd steps (cf. Appendix 5) followed a sequence where the broad programme structure was determined before the module descriptors were developed and this could be criticized as reverting to a subject-based design. The ADEd curriculum planning and implementation document (Appendix 7, Section 17) presents the module descriptors under the heading of ‘Overview of learning outcomes’. Only the module descriptor format of the professional modules is of interest since the syllabi of the ‘School Subjects’ reflect topics of the national school syllabi. Against the applicable background of Section 3.3, an analysis of the ADEd module descriptors reveals the following:

The previously determined outcomes of ADEd were not critically revisited and no changes were made. The module descriptor outcomes focused on competencies rather than traits or attitudes, therefore problem solving was for instance addressed but not emotional intelligence. Moreover, the learning outcomes (indicated as LO, Appendix 7) intermingled knowledge and competencies, rather than using exit outcomes that are further developed through performance criteria and range statements applying particular verbs. Clearly the ADEd modular organisation of content reflects lack of understanding of some CBE concepts and practices. The module content incorporates little competencies and much knowledge. Even so some stakeholders suggested that ADEd’s knowledge levels were not on par with the intended ‘advanced’ level. Questionnaire feedback from all the ADEd students however indicated that they perceived the content of all modules as relevant and adequate. On the positive side, the module descriptor of ‘Professional Development’ captured *general roles* such as managing conflict, communication and lifelong

development (Appendix 7, Section 17). The same module descriptor also reflected an emphasis on Namibian conditions as part of 'indigenous knowledge' and 'responsiveness'. However not all module descriptors incorporated Namibian indigenous knowledge adequately.

The ADEd module outcomes were furthermore not grouped into units which might have been useful in modules of an interdisciplinary nature. Some modules dissolved the discipline boundaries as is reflected by titles such as 'Learning, Teaching and Assessment' or 'Professional Development'. The ADEd curriculum structure (Appendix 7, Section 9) shows that the disciplines such as Sociology of Education, Philosophy of Education and History of Education were devalued instead of making a refocused contribution and this could be criticised. The ADEd modules were year courses but not all modules had standardised contact hours / credits. A differentiated period allocation was a radical perspective in the UNAM context of that time. The core modules were clearly indicated as 'compulsory', however elective modules were restricted to the selection of two 'school subjects'. Therefore no difficulties of implementing too many electives were encountered. The ADEd modules that were offered in both years required a pass of the first year modules as a pre-requisite. In that sense the debatable CBE idea of modules having as few as possible pre-requisites was not followed.

The module descriptor format (cf. Section 17 of Appendix 7) could be criticised in regard to the following: An NQA level and institutional code could be inserted below the title. It is a positive benefit that the pre-requisites and duration / credit hours are indicated however, stakeholders are not informed of which year of the qualification and in which semester(s) the module is scheduled. Also lacking is the indication of whether it is a core or an elective. The ADEd format could have included the headings: 'job opportunities', 'additional costs', and 'next revision date' of the syllabus and 'prescribed and recommended material'. Furthermore, an overview of the exit outcomes might have been provided before they were outlined.

The heading of 'Teaching arrangements' of the ADEd module descriptors could be replaced by a more functional heading such as 'Course requirements and expectations' that provide information regarding academic integrity, self-directed learning, participation in discussions, teaching practice portfolio and attendance. The information provided under the "Assessment" heading of the ADEd module descriptors was useful but could have been made more complete

by referring to the possible weight of different tests in a module and the grading of assignments or possible group project assessment. Lecturing staff were not required to produce course outlines that aligned implementation details such as available time, dates for tests and assignments with content. This could be criticised.

The original ADEd design questionnaire (cf. Appendix 3, Section 5.5) obtained feedback about the perceived importance of the proposed ADEd modules. The respondents rated 'School subjects' as the most important module, 'Learning, teaching and assessment' as the second most important module and 'Professional development' as the third most important module. In retrospect it is equally important to obtain feedback about the organisation, scope and depth of content of modules as these dimensions reflect CBE features. The feedback from the international survey indicated that the academic focus of modules must not be too narrow; that exit outcomes of module descriptors need to reflect knowledge as well and that it might be positive to incorporate indigenous knowledge (cf. Appendix 12: Points 19, 20, 21, 26). In addition, the international survey respondents emphasised the proposed use of a matrix to monitor the incorporation and duplication of competencies in modules (cf. Appendix 12: Point 27). The current Faculty of Education context is already incorporating the national teacher standards into modules that follow the organisation of content into 'exit outcomes' and 'learning outcomes'. The Faculty prefers however the traditional names for modules rather than 'market oriented' ones and few modules are actually of an interdisciplinary nature. A traditional subject like Philosophy of Education has nevertheless adjusted its focus to cover some 'thinking development' and 'civic education' also. The CBE nature and format of module descriptors are challenging issues for UNAM lecturing staff but all faculties were officially advised (in October 2006) by university management to follow a module format with particular headings (as in Table 3.9 framework) and organising content into exit outcomes and learning outcomes. The progress made to date is thus already promoting the application of the synthesised framework regarding this step.

#### **6.1.10 Establishing the broad programme structure**

The relevant step in the synthesised framework (cf. Table 3.9) indicates distinctive CBE features such as: core modules according to national standards; modules that address specialisation; differentiated hours per module to reflect priority of standards; carefully determined sequence of

modules and *work-based modules* that develop competence. The ‘effective teacher education strategies in developing countries’ (cf. Chapter Two, Table 2.1) also support the CBE idea that teacher’s training should include practising in ‘school settings’ to learn from ‘actual classroom behaviours’.

In terms of the second analysis question, as indicated previously, the ADEd structure was established before the module content and this could be criticised. The used heading of ‘Curriculum overview’ (Appendix 7, Section 9) might be replaced with a more accurate ‘Programme structure’ heading. Section 9 of Appendix 7 illustrates that the curriculum structure of the ADEd was spelled out comprehensively, e.g. module titles, codes, contact hours and pre-requisites, thus promoting accountability and instructional management. In addition, some ‘notes on curriculum’ provided further clarification. These notes did, however, not refer to phasing in and out regulations, because that was not applicable to the ADEd case. Section 8 of Appendix 7, titled ‘Nature of the course’, could have been integrated into Section 9 since the latter also clarifies the programme structure and implementation. All respondents to the design questionnaire were in agreement with the compulsory two ‘School Subjects’ that covered both content and methodology on a higher (HIGCSE) level. Respondents furthermore rated the ‘School Subjects’ as the highest priority, with ‘Learning, Teaching and Assessment’ the second highest and ‘Professional Development’ the third highest. Some stakeholders observed that ‘specialisation’ was not addressed and that could be criticised.

The titles of most modules move away from disciplines and reflect a utilitarian design approach. Noteworthy is that the modules were allocated different hours to reflect priorities. This could be done in the ADEd case since there were no semester modules and the Saturday meetings were independent from the normal university timetable. The enrolled teachers were exempted from ‘teaching practice’ and therefore the programme structure did not reflect teaching practice modules as it normally should. As pilot programme, the ADEd modules were not designed with the possibility of meeting the needs of other faculties, or several qualifications or possible exit points other than certified completion. The international survey feedback did not comment on the proposed sequence that the broad programme structure is compiled after modules are developed. It should be noted, however, that current and future programmes should monitor whether the programme avoids a too narrow occupational focus and also addresses ‘general education’ of

teachers. In addition, UNAM teacher education programmes should monitor whether the modules reflect the priorities of the national teacher standards and specified rationale and exit outcomes. Furthermore, it must be monitored whether the modules are on the required NQA levels. The availability of the national teacher standards currently prompts the Faculty of Education to ensure that programme structures adhere to the standards and this promotes the implementation of a CBE programme structure. Since many qualifications are offered via different modes at UNAM the appropriateness of the sequence of modules in the programme structure must be evaluated. It is noteworthy that the current faculty context even provides for the ‘general education’ of teachers.

#### **6.1.11 Developing the assessment regulations and instruments**

The details of this step about assessment (cf. Table 3.9) meet the CBE features of learner support through possible re-testing, continuous assessment and feedback while also addressing the complexity of ‘competence’ assessment (cf. Section 2.3.4.6). In addition, CBE assessment focuses on excellence to be achieved by all learners and not just by a few; therefore assessment addresses the feasibility, reliability and validity of assessment policies and procedures. Such policies, for instance about non-grading, re-testing, calculating of the ratio between competence and theory, should be clearly spelled out and communicated to stakeholders. Also typical of CBE is the involvement of school personnel in the assessment of students’ competence levels.

The ADEd ‘assessment step’ corresponds to the CBE features as follows: The ADEd assessment regulations are delineated under the heading of ‘Pass requirements’ (cf. Section 11 of Appendix 7). The pass requirement for theoretical components was determined as 60 percent and 80 – 100 percent for practical tasks. That was a bold deviation from the established 50 percent requirement for either theory or performances and replaced aggregates with criterion oriented grades. Fifteen of the 17 respondents agreed with the higher pass requirements but questioned the lack of teaching practice. Since the teaching practice component was not applicable, students did not react negatively to the practical pass requirements. Without teaching practice the opportunity to test CBE ‘rating scales’ or ‘band descriptors’ were lacking which is unfortunate since assessment of competence is one of the problematic features of CBE. ADEd students were apprehensive at first of the high theoretical requirement until after a clarification of the support they would get and the re-test option. Initially a few students made use of the re-test opportunity

but soon realised that they place themselves under great pressure by relying on this second chance. The second chance mark for assessments was limited to the pass mark of 60 percent even if students scored above that, because that mark was not achieved under the original test conditions. Students accepted that as a fair practice after discussion of the matter and unofficial assessment schedules were designed to record marks for first or second opportunities.

It proved impossible to test each outcome as the assessment regulations intended. Written non-grading tests were replaced with oral small group discussions and brief revisions at the beginning of the three weekly meetings. The feedback from discussion groups was complemented where necessary to enhance the learning function of non-grading assessment. Individualisation of assessment where learners could write tests or examinations at different times was not deemed feasible. The minimum expected total of tests and assignments was specified and communicated to stakeholders (cf. Appendix 7, Section 11, Appendix 1). Further positive policies and procedures of ADEd were that the weight of the continuous assessment mark towards the final examination mark was specified and that students could write the examinations in their regions. The policy regarding supplementary examinations is also noteworthy in that it was based on the idea that clear outcomes in syllabi, relevant admission requirements, the higher pass and admission requirement to examinations, a fair amount of continuous assessments and feedback should enable all students to pass. This policy was actually realised but for one student in one subject in the second year that needed a supplementary paper. It could however be debated whether a 'no supplementary policy' would still work if student numbers increased significantly.

On the negative side, it could be pointed out that there was no differential weighting of the tests and assignments as could have been the case. No new promotion rules were applied to better suit the modular system and this could be criticised, however the rules for achieving distinction were specified. Written or performance tests were only produced during implementation of the programme and not at the design stage, mainly because of the short time involved from design to implementation of the programme. The ADEd assessment regulations included some positive details about the focus on thinking levels required by verbs; that the specified outcomes essentially represent the assessment questions; that accurate records were to be kept by lecturers and that the admission to the faculty's Masters programmes require 65 percent. The system of having moderators was applied even though it was not specified in the ADEd assessment



regulations. Seen overall, the ADEd assessment regulations seem to have been very successful in maintaining quality and experimented boldly with some aspects of assessment. The international survey respondents did not disagree with the proposed ‘assessment step’ details and merely emphasised the use of multiple ways and instruments to assess competencies (cf. Appendix 12, Point 28, 29, 30).

The current faculty context focuses stronger than before on the assessment of students’ mastery of ‘competence’ and especially the tasks for teaching practice are in the process of being redesigned. The instruments for assessing performances would need to address the complex issue of rating scales and band descriptors. There are areas of CBE assessment that still needs to be addressed regarding the assessment of competence. The current context is, however, positively addressing CBE assessment policies and practices although many details still need to be worked out.

#### **6.1.12 Obtaining programme approval from key stakeholders**

The identified characteristics of CBE in Chapters Two and Three (captured by Table 3.9) highlight the involvement of stakeholders in different stages of programme design and evaluation. The involvement of all types of internal and external stakeholders would then ensure that real life living and working needs are met, that relevant academic knowledge is incorporated and organised, that international standards are observed and so forth. Which stakeholders and how many of them should be involved has therefore to be considered but the NQA remains one of the important stakeholders as it represents nationally legal requirements. At this stage stakeholders were already involved in the ‘situation analysis’ but need to provide further input regarding the whole programme design. The details of step twelve suggest that NQA approval of the programme is obtained *before* senate approval of the programme and this raises the question of academic freedom again. Senate could approve programmes without obtaining NQA approval first; however, it would be wise if the programme was *monitored in terms of* meeting the *legal minimum* NQA requirements.

The final ADEd design steps (cf. Appendix 5, following ‘Pass requirements’) were ‘Further study possibilities’ and ‘Teaching philosophy’ rather than ‘Obtaining programme approval from

key stakeholders'. Table 3.9 however accommodates the first aspect (teaching philosophy) more logically as part of the 'exit outcomes' (Step 6) and the latter as part of the situation analysis (Step 3). The ADEd task force did not consult external stakeholders *at this stage* and that could be questioned, however they did involve stakeholders during the 'situation analysis step' and further 'obtain feedback from an advisory group' (cf. Appendix 5, Step 16) once the programme modules were finalised. As indicated in earlier steps (see Chapter 5, Section 5.3.3) the ADEd syllabi were not developed sufficiently to reflect the depth of expected knowledge and this implies that stakeholders could not accurately judge the quality of the programme. This was a serious flaw in the ADEd design process regarding stakeholder involvement. In addition, it could be pointed out that although questionnaires were disseminated widely (cf. Section 5.2.2) enough only 17 responses were received.

The task force broke new ground regarding the involvement of external stakeholders in university programme design, even more so in deliberating with the NQA during the early stages of the situational analysis. The early involvement of the NQA was not only progressive but also saved time waiting for a reply from the NQA at this step. Some changes had to be made to the second year of ADEd to meet the NQA qualification criteria. The ADEd task force did not manage the involvement of *key internal* stakeholders well and did not elicit the support of the faculty management. This could be criticised although the political conditions of the time contributed to the lack of involvement of faculty members.

Will the current context promote or impede the implementation of this CBE feature? Once again, the availability of NQA produced national standards for teachers represent input from many national stakeholders; however, this useful input still needs to be converted into individual programmes with the input of current stakeholders. The current staff in the Faculty of Education is deeply aware of the importance and logistics of stakeholder input and this step in the synthesised framework will not be neglected in future.

Hitherto, the ADEd design framework was analysed according to the updated framework as presented by Table 3.9. It was pointed out that the ADEd case was negatively influenced due to the lack of appropriate individual and organisational management of change of the new educational philosophy. The ADEd action schedule did not include the design activities while the

situation analysis step neglected to consider several factors on an international level, national level and on an institutional level. The title included the term ‘advanced’, however, the programme structure and content did not quite match the specified level. The scope of the rationale was rather narrow and the correlation with the ADEd ‘aims’ not adequate. The exit outcomes incorporated relevant competencies from core occupational roles, job environment roles and leadership and management roles, but did not include ‘general educational’ elements or ‘wider roles’. Teacher attrition rates, career paths and preparation for further study were addressed to some extent by the exit outcomes.

New admission requirements were introduced and well executed. Broad access, while maintaining quality, was addressed through the delivery mode. The issues of RPL and bridging courses were recognised and reflected in the relevant sequence. The format of the module descriptors did not correctly develop exit outcomes into learning outcomes and their knowledge dimensions while some formatting headings were lacking. The ‘rationale’ and ‘exit outcomes’ could have clarified whether a ‘transformational CBE model’ (cf. Section 2.2) was followed. The contribution of several educational disciplines was devalued instead of being refocused. The broad programme structure was delineated well and the titles of modules reflected the interdisciplinary nature of some modules. The assessment regulations introduced new emphases on non-grading and a second opportunity and requirements were spelled out clearly; however, assessment of teaching practice competence was neglected. The involvement of external stakeholders (also emphasised by the international survey respondents (cf. Appendix 12: Point 23) in designing the programme was a new accomplishment at the time, although some aspects of it could be criticised.

In terms of the sequence of the steps flexibility can be applied and the ‘situation analysis’ could be step one, ‘time schedule’ could become step two and the ‘management of change’ become step three. Step seven (admission requirements) and eight (delivery mode) could move till after step ten (programme structure) without altering the characteristics of CBE. It makes sense that the situational analysis examines the needs and variables of the internal and external educational environment which are then addressed by the rationale and exit outcomes. The development of module descriptors (reflecting the different occupational roles and academic development goals) precedes the development of the programme structure to reflect the national standards.

Assessment and promotion regulations can be specified if module descriptors' content and the programme structure are determined and further input of relevant stakeholders could ensure meeting of the minimum legal standards before senate considers the programme.

On the whole, it was found that the current UNAM context positively assists implementation of many CBE design features and as such the proposed synthesised framework would be applicable to the Faculty of Education.

The next section entails the analysis of the ADEd *implementation* steps against the conceptual framework provided in Table 3.9.

## **6.2 CRITICAL ANALYSIS OF THE ADEd IMPLEMENTATION DATA**

Table 3.9 presents a conceptual CBE implementation framework from steps 13 to 26. As in the case of the 12 design steps, the headings of many implementation steps appear very similar to subject-based ones, however the type of activities involved per step reflect the unique features of CBE (cf. 2.4). The steps 'management of administrative changes' and 'establishing an instructional management system' are unique to CBE implementation. The details of steps 17 and 19 would reflect the need for resources to develop competencies. Step 23 involves, for example, the training of staff in CBE instruction perspectives and administration to address one of the possible limitations (cf. 2.6.3) of CBE. The numbering of the implementation steps continues on the numbering of the design steps to suggest the interdependence and cyclical nature of the design and implementation framework in order to enhance the quality assurance of a programme.

As indicated in Table 3.9 the analysis of the ADEd implementation will be done according to the following steps:

- Step 13: Leading and managing administrative changes
- Step 14: Establishing a CBE oriented instructional management system
- Step 15: Compiling bridging (pre-entry) courses and material
- Step 16: Designing a timetable
- Step 17: Appraising the required physical facilities
- Step 18: Appraising the need for staff
- Step 19: Identifying required teaching-learning resources

- Step 20: Drawing up a budget
- Step 21: Advertising to procure students and staff
- Step 22: Selecting staff and acquiring teaching-learning resources
- Step 23: Training staff in CBE theory and practices
- Step 24: Piloting the programme
- Step 25: Continuous evaluation of the programme quality and institutional environment
- Step 26: Certifying students

As in the case of the design steps the analysis per step focuses on three questions: What are the distinctive CBE characteristics as represented by Table 3.9? How does a particular ADEd step correspond to these characteristics? How would the *current* UNAM context impede or promote the application of a CBE framework? The analysis should provide data for conclusions in Chapter Seven about accepting or altering the proposed synthesised implementation framework for the UNAM context.

### **6.2.1 Leading and managing administrative changes**

The first analysis question concerns the distinctive CBE features in this regard. Table 2.2 observes that CBE is often introduced by politicians rather than academics and the comprehensive academic and administrative changes (cf. Section 3.3.1.1) therefore require management. While the first *design* step (management of change) focuses on the characteristics and appropriateness of CBE, this implementation step requires that organisational management introduces relevant structures and policies that ensure effective implementation of CBE features. The management of CBE administrative changes is so important that should it not happen it could be a powerful limitation (cf. Section 2.6.3) for introducing CBE successfully. In addition, the comparison of CBE and SBE (Table 2.3) reflects that CBE management structures and policies aim to support ‘quality learning’ and ‘success for staff and students’. The synthesised framework of Table 3.9 reflects these and other administrative issues at institutional and faculty levels that need to be addressed, for instance, workload policy, reward system and assessment records. The ‘managing of administrative changes’ as first implementation step is, therefore, setting a framework without which other implementation steps cannot operate effectively.

The second analysis question concerns the extent to which the relevant ADEd step corresponds with these CBE characteristics. The ADEd task force members attended to the development of

the modules, questionnaires and learning materials. All lecturing staff involved in ADEd were briefly introduced to the key CBE features of ADEd and the project co-ordinator served as mentor for contract staff especially. The planned re-test policy and English proficiency tests were implemented and should be commended. Documentation was also provided to enrolment officials to ensure correct registration of students. As the ADEd students were not involved in other faculties, collaboration with other faculties was not addressed. However, this is a crucial feature under common circumstances. During the visit to the RMIT in Melbourne (cf. Section 4.5.7) the researcher noted that their Faculty of Education negotiated effectively with other faculties what 'school subject content' the teacher education programmes require. The other faculties quickly co-operate when facing the prospect that losing the 'education students' could severely reduce their staff.

The secretarial and administrative services of the faculty were not expanded on behalf of ADEd and the lecturers involved in ADEd took the responsibility for most of the administrative work involved. They typed most documents, disseminated documents, visited some stakeholders, compiled and marked the English proficiency tests, wrote and organised the relevant advertisements in papers, offered most modules, compiled learning materials, co-ordinated everything, trained new contract staff, acquired some video equipment and ordered books for students, assisted in interviews for contract staff, acquired the use of a laboratory of a nearby school and so forth (cf. Appendix 4). Staff was provided with assessment records that could record first and second assessment marks and the final marks were eventually transferred to the common university schedules. The two main reasons for the lack of faculty management support were firstly, that the pilot study was not strongly supported and therefore the main changes regarding the programme were design aspects. Secondly, the task force did not realise the extent and importance that the administrative and management changes would assume if an honest attempt were to be made to fully accept CBE perspectives.

The positive outcome of this 'managing administrative changes' experience for the task force members, was that they realised that management dimensions are crucial to successful implementation of CBE programmes. Seen overall the ADEd management activities were effective although no permanent changes were made to the university system. The original ADEd design questionnaire does not include *sections on implementation* and its use resulted in

no helpful feedback regarding CBE implementation features. In addition, the original case applied a student feedback questionnaire (cf. Appendix 6) also not designed for evaluating CBE implementation features. However, some relevant feedback was obtained (twice a year) especially via the open-ended responses and informal discussions with staff regarding the students' feedback. The international survey respondents (in particular one Namibian also) found that to have an implementation framework is a necessity in order to ensure that the planned programme is actually realised (cf. Appendix 12: Point 11). In addition they highlighted interfaculty collaboration (cf. Point 31).

The third analysis question requires examining the current UNAM context regarding the managing of administrative changes. The Faculty of Education is already working closely with other UNAM faculties to negotiate better what the 'education students' need. There is also better acceptance of an 'informal policy' that experienced teachers are appropriate for teaching the 'teaching methodologies'. A very positive development is a recent (2006) workload policy from top university management that recognises more lecture-related variables and activities that suit CBE views. The promotional system is, however, very research and publications oriented while CBE views rate excellent teaching as well. Overall the UNAM context is progressing towards CBE oriented administrative changes and the synthesised framework regarding this step would be fairly acceptable for the Faculty of Education context.

### **6.2.2 Establishing a CBE oriented instructional management system**

CBE instructional management involves policies, structures and functions of staff. Up to this step some instructional management activities such as the 'compilation of module descriptors' and an 'assessment policy' are already incorporated in the steps. Chapter Two reflects that CBE 'management structures and policies aim to support quality learning and success for students and staff' (cf. comparison of SBE – CBE in Table 2.3). Section 2.4, Table 2.2 also emphasises instructional management issues such as: disseminating module descriptors and guidelines for setting papers, giving feedback and teach in teams; training of students and staff in CBE perspectives; applying of RPL and other admission tests; promoting co-operation among lecturing staff as well as with schools regarding the monitoring of students. The module descriptors as instructional tools render several possible management advantages (cf. Section

2.6.2) but also pose limitations ranging from time and cost factors to conflict-riddled interpersonal relationships (cf. Section 2.6.3).

Table 3.9 captures or suggests these CBE features against which the ADEd step are evaluated as part of the second analysis question. The ADEd design framework (cf. Appendix 5) did not include this particular step of Table 3.9 and this could be criticised. The ADEd project co-ordinator did compile a possible restructuring of departments, but that was never formally proposed to the faculty. Likewise changes in the duties of administrative and lecturing staff were compiled but not formally introduced due to the pilot nature of ADEd and the resistance against it. A teaching practice co-ordinator already worked in the faculty and as such was not proposed.

The following positive aspects of managing the ADEd instruction should be noted: An induction document that referred, inter alia, to the changing role of the lecturer and students was created and discussed with all staff involved in ADEd. Staff were made aware of how to manage their instruction with emphasis on group discussions, reflection on Namibian experiences and the use of Namibia school textbooks for teaching the 'school subjects'. The ADEd co-ordinator ordered such school-related books timeously. Students were also informed about their expected roles. Understanding and the ability to apply knowledge in local schools were emphasised. Staff and students were provided with a meeting timetable and module descriptors. Assessment schedules capable of recording second assessment results were distributed to staff. Overhead projector facilities, video and photocopying facilities were made available to lecturing staff. Access to the library for contract staff was also arranged. Lecturers had to obtain student feedback twice a year via provided questionnaires.

Conversely, the following could be noted: Lecturing staff was not required to compile a course outline from the module descriptor. A departmental file system incorporating all documents regarding instructional management of ADEd was not introduced. Overall the ADEd task force attended to many of the *individual* oriented instructional management aspects, but because support from the faculty management was lacking, most of the required *organisational* changes in this regard were deemed to be of a temporary nature and thus were not introduced. The original ADEd design questionnaire does not include *sections on implementation*, and its use resulted in no useful feedback regarding CBE implementation features. In addition, the original case applied a student feedback questionnaire (cf. Appendix 6) also not designed for evaluating



CBE implementation features. However, some relevant feedback was obtained via questions seven and eight and the open-ended responses of students' feedback, for example, students perceive the module descriptors as helpful; the availability of learning materials and clarification of the assessment policy were good instructional management tools. The respondents to the international survey found this step acceptable and notably comprehensive (cf. Appendix 12). The 'instructional management' on a faculty level logically follows the preceding step about 'institutional administrative changes'. The 'instructional management' step requires linking with previous and following steps in the framework, demonstrating the cyclical nature of the framework.

The third analysis question focuses on whether the UNAM context could accommodate the CBE features of this step. The Faculty of Education has a curriculum development committee in place as a structure that influences instructional management issues such as the module descriptors and assessment policy. UNAM has a 'Teaching Unit' that recommends, amongst other instructional management issues, work load policy and the nature and application of a student feedback questionnaire. These features suggest a faculty and institutional context that is positive towards some key CBE instructional management features and the implementation of the instructional management step in the faculty seems possible.

### **6.2.3 Compiling bridging (pre-entry) modules and material**

Chapter Two and Three do not claim that 'bridging' is a distinctive CBE feature. The CBE philosophical perspectives (Section 2.3.4.1), however, advocate that education is about 'developing people' and it should be a 'successful experience for all learners', therefore a 'supportive learning environment' should be created. Success for 'all' is debatable but the point here is that bridging courses could be perceived as part of the supportive learning environment. The proposed design step number seven (about admission requirements) shows how a CBE supportive environment aligns student characteristics, admission criteria, RPL and bridging courses to promote success (Table 3.9). If a decision was taken at step seven to have *separate* bridging modules then this step would attend to designing or acquiring such modules.

In terms of the second analysis question the ADEd design steps (cf. Appendix 5) did cover the issue of possible bridging modules, however such courses were not designed or implemented for the pilot. The ADEd steps which attended to this issue occurred too early in the design process and no distinction was made between *deciding* on the need for it (Step 7) and the starting of designing (Step 17) such courses. Fifteen respondents of the original ADEd design questionnaire thought there was a need for bridging courses. The feedback to the international survey found this step in order and no additions were suggested. The question could be asked whether this proposed step is still valid if *no separate bridging courses* existed but first year modules were simply ‘reaching down’ and taking students from where their levels are. This could work for ‘school subject knowledge’ but not for bridging courses in ‘English proficiency’, ‘study skills’ ‘computer skills’ and so forth. It seems to answer the question that some form of separate bridging courses is likely to exist and this step would be valid in such cases. As indicated earlier (cf. 6.1.7), the current UNAM context is in favour of some form of bridging support for students and the first semester modules of all students cover ‘English communication and study skills’, ‘Computer literacy’, ‘School subjects’ and Contemporary social issues’ (University of Namibia, 2006:10). Although the bridging programmes at UNAM could be expanded the idea of bridging is accepted and implementation of such a CBE framework step would in principle not be impeded by the UNAM context.

#### **6.2.4 Designing a timetable**

All programmes have a timetable. The distinctive feature of a CBE timetable is not merely to reflect the weight of core and electives correctly but to provide for work-based learning (cf. Section 2.3.4.5 and 2.4) as a key element of CBE. Since ‘education students’ are often also served by other faculties the timetable must be aligned institutionally so that when student teachers visit schools they will not fall behind in other areas. Table 3.9 reflects these CBE timetable features regarding correct weight / periods per module, indication of core and elective modules and the slots for teaching practice.

In regard to the second analysis question, the ADEd task force produced a detailed timetable and accompanying notes that clarified the learner-centred and adult education philosophy behind it (cf. Appendix 7, Section 10). Even the dates for tests, assignments, examinations and student feedback exercises were included. The modules accurately reflected the different hours allocated

to them, for instance there were 20 School Subject (SS) periods for the first year and 14 'English for Teachers'. The sequence of modules per meeting session rotated and all modules were allocated a double period to allow for practical activities. As the programme was presented on Saturdays, clashes with the existing faculty timetable were not an issue. As teaching practice for ADEd candidates was not required and other faculties were not involved the timetable did not have to address that.

One respondent to the international survey felt that this step should rather be addressed after the 'appraising of physical facilities' and the 'appraising of the need for staff' as these two steps impact on the timetable. This appears to be a reasonable suggestion which would be appropriate for the UNAM context without changing the features of CBE. In addition the international survey also pointed out that the sequence of the implementation steps might change due to contextual factors (cf. Appendix 12: Point 13, 12). Some degree of flexibility regarding the implementation of the implementation steps seems to be a realistic suggestion as long as the possible connection between steps is recognised. The current UNAM context recognises that teaching practice is vital for practising competence and the institutional timetable strives to align needs of the schools, Faculty of Education and other faculties. The application of this framework step (even with the changing of the sequence position) in the UNAM context would, therefore, not encounter resistance.

### **6.2.5 Appraising the required physical facilities**

The first analysis question focuses on the distinctive features of CBE. Once again, all programmes require physical facilities such as lecture halls and laboratories. The distinctive CBE feature of having outcomes that focus also on the development of competence (cf. Section 2.3.4.2, 2.3.4.5) require that physical facilities should provide for developing such competence. In the case of teacher education, such facilities might include discipline-related laboratories, a computer and other media laboratory, micro-teaching laboratories apart from lecturing venues and offices. Having such physical facilities is not an option for CBE but a necessity to achieve quality in this paradigm. This is why this feature is identified as a possible limitation for introducing CBE (cf. 2.6.3). Meeting the possible need for physical facilities should, for instance, already have been considered at the situational analysis step although the details are worked out only at this step and the actual acquiring of it in a further step.

The ADEd task force appraised the need for facilities, including whether the library and the student cafeteria would be accessible. The Saturday delivery mode of ADEd was outside the peak utility period of facilities and the ADEd needs could easily be accommodated. In fact, most meetings were held in an air conditioned venue that aided concentration, especially during the hotter seasons. Offices for contract staff were not available but that posed no real problem since contract staff turned up for lecturing sessions and thereafter left. Another challenge was to find a laboratory for the few Biology students and a high school laboratory within walking distance was acquired at no cost.

The survey respondents did not criticise the details or the position of this step. It could be argued, however, that the next step ‘appraising the need for staff’ should precede the ‘appraising the physical facilities’ step as the number of academic and administrative staff would impact on the physical facilities, e.g. on office needs. The current physical facilities in the Faculty of Education are not adequate: there are not enough smaller venues available for small group or peer tutoring; the equipment of the micro-teaching laboratory is not working and there is not a computer laboratory for prospective teachers. Fortunately these issues are recognised and will be addressed through a national plan for improving education. This implies that the immediate future UNAM context might have the appropriate physical facilities required by a CBE teacher education programme.

### **6.2.6 Appraising the need for staff**

The distinctive feature of CBE regarding this step is that the ‘expanded learning opportunities’, the ‘organising and assessment of competence’ and the ‘higher administrative workload’ to produce module descriptors and to hold meetings with stakeholders demand more administrative and lecturing staff than in a traditional SBE system (cf. Section 2.3.4.3 – 2.3.4.7). More staff is a necessity to make CBE work and that is why this feature of CBE is listed as a possible limitation (cf. 2.6.3) for introducing CBE. This step involves matching the expertise and interests of lecturing staff with the programme requirements. Furthermore, the step determines to what degree the extra workload could be managed by available staff and how many additional staff would be necessary. It also necessitated considering whether contract staff or marking tutors could solve the problem and whether additional administrative staff within the faculty would be needed (cf. Table 3.9).

The task force appraised the workloads of permanent faculty staff and identified a need for a contract lecturer in Educational Research, English for Teachers and five teachers to offer the five school subjects. The appraisal of the need for administrative staff was done, bearing in mind the increase in typing, production of module descriptors, minutes and other documents and also to assist with the organising of venues, times and resources. The only help that could be mustered were the voluntary services of the faculty typist and the faculty officer.

The survey respondents did not criticise the details of this step, however, as indicated previously, it was suggested that it might be addressed earlier – before the ‘physical facilities’ (cf. Appendix 12: Point 13). It was indicated earlier that a recent workload policy at UNAM favours the appointment of more staff as it recognises more lecturing and administrative activities. The reality is, however, that one faculty secretary and typist serve the whole faculty. Chairpersons of committees are often forced to perform both chairperson and secretarial functions which could have been addressed through contract staff. The UNAM context regarding this step might pose difficulties to implement CBE effectively until top management understands the CBE need for more staff in order to produce the expected quality of education.

### **6.2.7 Identifying required teaching-learning resources**

In terms of the first analysis question the distinctive CBE characteristics regarding this step are that the CBE ‘teaching and learning perspectives’ (cf. 2.3.4.5) involve ‘expanded opportunities’, ‘workplace and simulated instructional modalities’ and ‘facilitation of deep, experiential and self-directed learning’ which require adequate teaching-learning resources. These CBE features are captured by Table 3.9 as step nineteen to ensure that designers identify the necessary teaching-learning resources that would promote quality teaching-learning. Table 3.9 suggests that programme designers could consult the learning outcomes of all module descriptors in order to establish a comprehensive inventory of materials envisaged for effective teaching and learning. Some of these resources would be provided by the university such as module descriptors, computers, Internet bandwidth, library facilities including DVDs, laboratories, and some resources which would eventually be purchased by students such as textbooks and study guides. Transport needs during teaching practice as a teaching resource for teacher education are worthy of mentioning. Important to note is that teaching-learning resources are merely *identified*

at this stage and not acquired or developed because student interest in the programme and availability of staff is not clear at this stage.

In terms of the second analysis question the ADEd framework steps (cf. Appendix 5) indicated that teaching-learning resources were to be identified and acquired before Senate approval was obtained. In practice that unsound logic was corrected and resources only acquired after approval by Senate. The teaching-learning resources identified were textbooks for the 'school subjects', notes for all subjects, video and overhead transparency equipment, a Biology laboratory, a lecture room with air conditioning and a flip chart. The task force performed well in understanding that these resources are a necessity and not an option. The international survey respondents expressed no criticism against this step since the details were comprehensive and addressed the CBE characteristics.

The current UNAM context is accepting the challenge to provide teaching-learning resources within budgetary constraints. A national project is underway to provide more computers and micro-teaching simulation facilities for the Faculty of Education. Students are also supported via the production of inexpensive study guides because expensive imported textbooks are simply not affordable for most students. More and better duplicating facilities were also recently introduced on campus. On the whole, the UNAM context does not impede the implementation of this CBE step.

### **6.2.8 Drawing up a budget**

Chapter Two indicated (cf. Section 2.6.3) that the high start-up costs of CBE are one of the possible limitations for introducing CBE. This step enables officials / designers to calculate fairly accurately such distinctive costs for individuals and the institution if CBE is introduced. By examining the details of the design and implementation framework steps the cost implications for each step could be incorporated into a budget (cf. Table 3.9). Working through the steps ensures that many hidden financial implications might be observed that would normally not be the case. In addition this step reminds one to consider possible cost implications for phasing in of a new programme and phasing out of the existing programme.

The ADEd task force analysed the projected expenses for the university and indicated such in the submission to Senate (University of Namibia, 1997b:428). The fact that students would be responsible for travelling and accommodation costs was mentioned in the ADEd curriculum planning and implementation document (cf. Appendix 7, Section 8). No budgeting for phasing in or out of programmes was made since it was not applicable. This is, however, an important issue to address under normal circumstances.

One respondent to the international survey observed that the actual phasing in and phasing out *implications* should be addressed already in step 7 (Admission requirements). The proposed framework address the ‘phasing in and out costs’ more appropriately under step ten – ‘establishing the broad programme structure’. Another survey observation applicable here, is that although steps appear linear, they are connected and there is a cyclical relationship between them (cf. Appendix 12: Points 25, 22). Bearing this in mind it would make sense to move this step three forward until after step twenty three (training staff) without altering the characteristics of CBE.

The current UNAM has a clear budget system in place which is strongly centralised and faculties’ budgetary proposals are finalised by the top management according to available funding and UNAM’s perceived priorities. The problem is that faculties rarely receive the funding that they request. If the current UNAM context regarding this step wants to promote CBE perspectives the top management needs to understand that CBE oriented budgets are *accurately specifying necessities* and the lack of funding requested would result in a reduced quality of education. On the positive side it should be pointed out that a UNAM policy exists to encourage faculties to generate their own funding to meet their budgetary needs. On the whole, the UNAM context works with detailed budgets and accommodates the CBE features in this regard. The real problem is the availability of funds.

### **6.2.9 Advertising to procure students and staff**

All universities procure students and staff. The distinctive CBE feature in this regard is that the advertising for students and staff needs to reflect the relevant CBE features regarding expected staff roles and programmes. This transparency regarding CBE features might have negative

effects but it was also indicated that there could be advantages in terms of ‘competitiveness’, ‘broader access’ and ‘public image’ (cf. Section 2.6.1). Step twenty one of Table 3.9 incorporates these CBE perspectives and suggests that advertisements could even indicate related career options, the recognition of prior learning opportunities and additional costs, if any. It might also be a good idea to advertise the need for administrative and lecturing staff (already trained in CBE) internally, before posts are advertised in public media.

The task force advertised the ADEd in the local newspapers (The Namibian, 3 November 1997) specifying the admission requirements; 14 Saturday meetings per year; the priority school subjects; date of the English proficiency test; 100 percent attendance required and closing date for applications. As ADEd did not address career-related options or apply the RPL these issues were not mentioned in the advertisements. The fact that travel and accommodation costs for students beyond Windhoek would be students’ own responsibility was not mentioned in The Namibian and could be questioned. Two memorandums were written by the researcher, dated 7 November and 8 December 1997, (Memorandum of the ADEd coordinator, 1997) to invite Faculty of Education staff to participate in the lecturing of ADEd courses and one lecturer from another faculty was contacted to enlist her services for Educational Research. The need for contract teachers in five specified school subjects was also advertised in the local papers. It was specified, amongst other requirements, that teachers had to have four years experience in a subject with proven grade 12 results over the last two years. The need for administrative help was not addressed via advertisements as voluntary assistance came from the typist and the faculty officer. This step was planned and executed well by the ADEd task force.

The current UNAM advertisements do not reflect CBE perspectives yet since changes towards CBE is only starting (2007) to take place. Changes made in policies and teacher programme content to meet the NQA guidelines will shortly be reflected in yearbooks and future advertisements. The synthesised framework in regard to this step therefore seems to be promoted in the Faculty of Education context.

#### **6.2.10 Selecting staff and acquiring teaching-learning resources**

The distinctive features of CBE regarding this step should be read in conjunction with the step nineteen about ‘identifying required teaching-learning resources’ and step twenty one about



‘advertising to procure students and staff’. The matter of ‘staff selection’ requires, however, some clarification. The comparison between SBE and CBE (cf. Chapter Two, Table 2.3) reflects that the CBE lecturer is a ‘facilitator’ rather than an ‘expert transmitter’. This implies that the staff selection process needs to search for lecturing staff in particular that is comfortable with the CBE facilitator role, with the organisation of knowledge in modules and is able to assess the teaching performances of students. According to the expanded framework of Table 3.9 this step entails the interviewing of administrative and lecturing staff as well as the acquisition, developing and duplication of learning materials. This does not state clearly enough that lecturing staff need to be selected on the basis of being comfortable with or trained in CBE perspectives. Staff will be trained (cf. next step) in CBE perspectives but the selection process must at least determine whether they are accepting CBE in principle. By doing this selection one of the limitations of CBE namely, ‘conflict- riddled relationships’ (cf. Section 2.6.3) is addressed and the effective implementation of CBE is enhanced.

How did the ADEd correspond to the CBE features regarding this step? Appropriately constituted interview panels interviewed all teacher applicants on the 25 fifth and 6 November 1997 (ADEd task force minutes, 1997c:2) and suitable candidates were contracted for Mathematics, Biology, Geography, Business Management and English. In addition one lecturer from another UNAM faculty was contracted but *the selection was not focusing on CBE oriented staff*. Staff members were only briefly oriented towards CBE *after* appointment. Staff training in CBE would for some time to come be necessary, but the selection process needs to focus on candidates that are comfortable with CBE perspectives in order to reduce interpersonal conflicts and personal work satisfaction.

Regarding the acquisition of teaching-learning resources the ADEd project co-ordinator acquired two overhead projectors, two flip charts and video playback facilities for lecturers’ use. Module descriptors for all subjects were provided for both the lecturers and students. The prescribed textbooks for the school subjects were purchased, however no textbooks were prescribed for the other subjects and lecturers had to compile notes that were reproduced for students prior to each meeting. The fact that some modules combined interdisciplinary content made it more difficult to prescribe a suitable textbook. A few students observed via the feedback questionnaires that

prescribed textbooks were desirable and this lack of textbooks for an advanced level qualification could be criticised.

As all students were practising teachers, reflection on their experiences in groups was done and the flip charts were used to report findings. In some subjects videos were available and used but the analysis of own experiences proved to be very popular and effective as this brought theory and practice together and made sense for students. All students commented positively via the feedback questionnaires on the clear guidance provided by module descriptors but felt that textbooks were necessary. Access to the Internet was not addressed and staff transport for teaching practice was not applicable but is an important aspect to be addressed under normal circumstances. Performance and written tests were not developed at this stage but student feedback questionnaires were duplicated ahead of time of use. The international survey respondents proposed no further suggestions regarding this step which might imply that they were in agreement with the proposed activities of the step. They could have pointed out, however, that new and especially younger lecturing staff might have difficulties to develop tests this early for modules that are new to them.

The current UNAM context selects staff as a rule at the end of a year for commencing duties the next year. The Faculty of Education does not select staff in terms of a positive orientation towards CBE as this was not an issue until now. One could also argue that new staff members need not to accept CBE perspectives as long as they are made aware that their working situation does apply and provide training in the CBE perspectives. This latter approach would not impede the implementation of the proposed framework step in the current Faculty of Education context.

#### **6.2.11 Training staff in CBE theory and practices**

The successful implementation of CBE relies on this training of staff (cf. Section 2.4). This staff training could be seen as a limitation to the introduction of CBE (cf. Section 2.6.3) but serves also as an advantage as it contributes towards 'quality assurance', a positive 'public image' and 'growth of lecturers' insights and competencies' (cf. Section 2.6.2). Table 3.9 emphasises thus the training of lecturing staff in terms of their new roles according to CBE, for example, their facilitator role, their accountable instructional management role and their assessment role. In

order to execute such roles training in assessment of performances, in co-operative learning and team teaching, in role plays and record keeping are required.

The ADEd addressed this issue by having an induction of staff during February 1998 (cf. Appendix 4) which focused on both the theoretical issues of CBE and the practical procedures (cf. Appendix 8). The CBE features of ADEd were clarified via a brochure and lecturers received a timetable, syllabi, textbooks, student feedback forms, list of contact persons and remuneration claim forms as part of an 'induction file'. Since teachers were contracted they were taken on a campus tour to orientate themselves. Access to the library were also organised for the teachers. Team teaching and role play were not discussed but co-operative learning emphasised. Seen overall this step was implemented effectively in the ADEd programme although under normal circumstances a prolonged training programme is necessary. The international survey respondents proposed no further suggestions regarding this step although they accepted its importance.

The current UNAM context lacks a proper staff development unit and the Faculty of Education would need to undertake CBE oriented staff development. Though the current context impedes the implementation of this CBE step the researcher is positive that the Faculty of Education management could be persuaded to introduce both an induction programme for new staff and a ongoing staff development programme.

### **6.2.12 Piloting the programme**

In regard to the first analysis question the distinctive 'systems' nature of CBE (cf. Section 2.3.4.4) dictates that feedback on the success of the system should be obtained and used for improving the system. The piloting of the programme (step twenty four) allows for this monitoring and feedback as to whether the implementation of CBE meets the designed features. According to the expanded Table 3.9 students are to be informed about the CBE features and their expected roles as soon as possible. All lecturers could assist in this task. It appears desirable that an official team be appointed to monitor all aspects of the implementation and the design team and project co-ordinator could be part thereof. Issues to be monitored by the team might include the availability and use of learning materials, effectiveness of student support towards

becoming self-directed learners, success of team teaching and how lecturers cope with their workloads, whether lecturers act as facilitators, whether the assessment policy and assessment of competence is accurate and the management of instruction is executed effectively. Lecturers furthermore need to reflect on their instructional management and gather student feedback about their performances. During the pilot programme all staff need to apply the policies and practices decisively until they are reviewed.

The idea that piloting a programme allows for evaluation of the success and the option of abandoning of a programme, worked well in the ADEd case. Opponents felt satisfied that they could change their views or stop the continuation of the programme on completion of the pilot. Due to the faculty management resistance to the ADEd pilot many 'implementation oriented' changes were not considered. Although the ADEd registration did not consider multiple ways of registration the pre-registration process was well run. Students had to apply timeously, applications were screened and those who qualified were informed to take the English proficiency tests. Those who passed the proficiency test were then informed about the date of registration.

In regard to the second analysis question the ADEd steps did not incorporate a step such as 'piloting' (cf. Appendix 4). In practice however, the project co-ordinator did monitor the adherence to the policies and procedures: Students were oriented in regard to CBE; the availability of learning and teaching materials were ensured; the implementation and possible problems experienced with the assessment policy were monitored; and the gathering of student feedback via questionnaires was done twice a year. The small student numbers influenced the re-test policy positively from the lecturers' perspective. The students took about half of the first semester to adjust to the high pass requirements and the re-test policy, and accepted better responsibility for their learning after that. Teaching practice was not done and monitoring of school personnel thus not an issue, however the subject methodology oriented modules focused on practical activities and their assessment. Student feedback regarding the presentations was mostly positive regarding ample opportunities for participation and application of knowledge to real school situations.

The international survey respondents found this particular step to be comprehensive but suggested that the piloting of the whole design and implementation frameworks would be an appropriate test for the validity of the frameworks as such (cf. Appendix 12: Points 8, 9). Furthermore, they highlighted that the monitoring should pay particular attention to the fact that the teaching-learning environment should provide ample opportunity for practicing of competencies (cf. Point 29). It could be argued that the ADEd experience proved that admission tests could be conducted before registration and the details of this step need to put this idea forward. Another aspect that can be seen as lacking in this step is a recommendation that the results of the monitor process should be used to improve the system.

In regard to the third analysis question it could be pointed out that the normal practice in the Faculty of Education is to address implementation problems in meetings throughout the year. There is, however, not a team responsible for monitoring the big picture and ensuring that the results are used for improving the practices. Though the current context does thus not promote the implementation of the CBE features of this step the researcher does not foresee that the faculty management would oppose such a 'pilot monitor team' when CBE oriented teacher education programmes are implemented in 2008.

### **6.2.13 Continuous evaluation of the programme quality and institutional environment**

The synthesis of programme features (cf. Table 2.2) indicates a distinctive CBE feature of 'programme effectiveness is continuously evaluated by involving stakeholders'. Such continuous evaluation is also in line with the 'systems' nature of CBE (cf. Section 2.3.4.4). Table 3.9 therefore indicates what aspects could be evaluated on a semester, annual and longer term basis. Towards the end of each *semester* lecturing staff could evaluate the scope and depth of course outcomes and assessment instruments, while students could evaluate lecturers' performance and faculty management analyses enrolment and assessment data. On an *annual / bi-annual* basis programme outcomes, enrolment data, assessment results and assessment policy and procedures could be evaluated. Furthermore, the programme structure and module descriptors could be reviewed. The module descriptors review should also pay attention to regional and international tendencies. The institutional effectiveness could be audited in terms of mission; goals;

programme quality; effectiveness of administrative policies and structures; staff and student support and growth in student numbers every *three to five years*.

How did the ADEd correspond to the said CBE features regarding this framework step? The ADEd steps (cf. Appendix 5) emphasised the continuous evaluation of staff and the programme as well. In terms of the methods applied for evaluating exercises the ADEd task force did not involve methods such as alumni, principals or employer surveys. Neither were critical incidents identified or self-evaluation instruments of lecturing staff employed. Because the ADEd advanced students did not conduct teaching practice, no results of their teaching performances were analysed. This would, however, be an important aspect of a common programme evaluation. The original ADEd design questionnaire does not include *sections on implementation*, and its use resulted in no useful feedback regarding CBE implementation features. In addition, the original case applied a student feedback questionnaire (cf. Appendix 6) also not designed for evaluating CBE implementation features. However, some relevant feedback was obtained (twice a year) through the open-ended responses and informal discussions with staff regarding the students' performances and feedback. The researcher as the project co-ordinator was also a lecturer involved in ADEd and he could triangulate the information when evaluating data. With hindsight it is clear that an 'evaluation or monitor team' would be more desirable than a single co-ordinator as in the case of ADEd.

The ADEd programme was not continued after the pilot and a summative programme evaluation was consequently not done. Therefore a refinement of the programme according to the evaluation results was not applicable and possible evaluation results and resultant changes to the programme were not communicated to stakeholders. The international survey respondents found the details of this step comprehensive and made no additional suggestions regarding this step. A logical addition, however, to the details of this framework step seems to be that the previous 'mentoring' team and this 'evaluation' team could be the same team. The use of self-assessment instruments by lecturers and departments needs to be incorporated as well. In addition, the student feedback forms must incorporate the teaching-learning perspectives of CBE while the success of RPL admitted students and the effectiveness of the bridging programmes could be evaluated as well.

In regard to the third analysis question it seems that the current UNAM context neglects the continuous evaluation of programme and the institutional environment's effectiveness. Since such evaluations provide input for refinements this aspect cannot be neglected as is currently the case in the Faculty of Education. The current context does, therefore, not promote the implementation of this step but it is unthinkable that the faculty is not open minded enough to introduce such evaluation exercises in future.

#### **6.2.14 Certifying students**

The synthesis of CBE programme characteristics indicates that 'qualification documents are accompanied by lists of competencies achieved' (cf. Table 2.2). Table 2.3 also recommends that CBE certification specifies more details than SBE certification does. These detailed documents of CBE are one of its unique features (cf. 2.3.4.7) which has some advantages for different stakeholders (cf. Section 2.6.2) but also has disadvantages (cf. Section 2.6.3). Considering the design, teaching and assessment focus of CBE programmes concerning competence, it makes sense that the *certification* should equally reflect this focus. Produced DACUM charts might be appropriate for this purpose and both graduates and employers might benefit from such identified competencies (cf. Table 3.9).

The ADEd certification did not apply the idea of providing additional documentation that reflects the competencies that a graduate would be able to do. No alternative exit points with certification were considered either. The task force did not propose such actions to management or provide such documents for consideration and this could be criticised. The international survey respondents did not add ideas to the proposed step, had no criticism about the idea of additional documents that reflect the competencies but supported the idea of multiple exit points (cf. Appendix 12: Point 25). It could, however, be emphasised that having 'multiple exit points with certification' (as Table 3.9 suggests) must be thoroughly considered, otherwise candidates might end up with lots of 'mini' qualification papers that are misleading and too narrow to be of real quality. The third analysis question per step requires reflection upon whether the current UNAM context would impede or promote the CBE feature regarding certification. The Faculty of Education has not yet considered the inclusion of a 'DACUM chart' of competencies achieved in the certification documents as a CBE certification situation will only be applicable in a few years

time. It seems reasonable to expect that this would not pose a problem to the Faculty of Education to provide students with a 'competencies achieved chart'.

In conclusion, the 26-step conceptual framework as depicted in Table 3.9 which reflects the distinctive CBE features was used to analyse the ADEd programme design and implementation framework, incorporating feedback from stakeholders and enrolled students as well as an international survey. The ADEd case proved to be accurate in identifying most steps; however, the sequence and scope of activities of some of the steps were criticised. The key design deficiencies of the ADEd model comprised a situational analysis that neglected a wider African and general education perspective and was therefore too narrow. Furthermore, a departure from a task analysis (instead of a teacher role analysis) impacted negatively on the scope and depth of the ADEd module descriptors. In addition, the module descriptors were not developed on a pure CBE basis that depart from competencies which are developed into knowledge and performance outcomes. Some of the implementation steps were implemented well; however, the important changes to the institutional and faculty policies and structures were not achieved. The instructional and change management lacked the necessary attention and the assessment policy would have to be refined concerning to workplace assessment. It was also evident from the ADEd experience that job descriptions of academic and administrative staff need adaptations that should be reflected in the workload of staff.

### **6.3 SUMMARY**

The ADEd design and implementation data was analysed in terms of the three specified questions (the unique CBE features per step, how ADEd corresponded to that and could the features be applied in the current UNAM context) the following could be noted: The management of change was not recognised as an important (first) step and the advantages and limitations of CBE were not discussed with internal and external stakeholders. This had negative consequences and addressing change can not be disregarded, no matter whether it is addressed as step *one* or *three*. A time schedule was followed but the schedule did not include the design activities that would allow for more accurate and comprehensive time and activity planning of programme development. Some dimensions of the situational analysis were covered well, e.g. perceived deficiencies of the target group, a response to local needs and the broad involvement



of external stakeholders. Other dimensions, however, such as massification, international trends in higher education and a wider African perspective were neglected. Furthermore, occupational roles were not used as departure points but rather atomistic tasks, resulting in not enough depth for an advanced level qualification. It appears also that the situation analysis step might be moved to become the first step rather than the third one as originally proposed.

The ADEd case specified the type of qualification according to the needs analysis, but did not quite meet the NQA regulations regarding that level. This is an important issue to note since such NQA level requirements must be observed in the UNAM context. A rationale and exit outcomes were formulated for ADEd, however they did not adequately cover general educational goals such as citizenship or community development. The analysis observed that the ‘rationale’ and ‘exit outcomes’ might be collapsed into one step without altering the features of CBE or hampering its practical planning. What could be added to this new integrated step is the suggestion that the particular CBE model to be followed is clarified. Furthermore, it must be indicated that the exit outcomes could also include knowledge and general education outcomes to prevent a too narrow occupational focus. The admission requirements of ADEd were addressed thoroughly but separated unnecessarily the issue of RPL from admission requirements. A lesson to be learned from the ADEd ‘admission step’ is that English proficiency tests (and thus possible others) could be successfully conducted before registration. The admission step and the delivery mode step belong logically together; however, both could be moved till after proposed step ten about the ‘programme structure’ as this allows an overview of the module content that might impact on admission criteria. The delivery mode of ADEd was specified very accurately and addressed the needs of the target group well, thus accommodating the CBE feature of ‘broadening access’ and ‘relevant to society needs’. The ADEd module descriptors’ format lacked some headings and the content outcomes were not systematically developed into competencies and knowledge per competence. Unlike typical CBE, the programme structure was developed before the module descriptors, but was quite progressive at that time, the module descriptors displayed ‘market oriented titles’, ‘combined disciplinary knowledge’ and ‘differentiated the amount of hours’ for modules to reflect priorities. What the ADEd programme structure did not consider was whether the proposed sequence of modules would be suitable for distance education as well – an important modern consideration to be reflected by a programme framework within the UNAM context. The ‘programme structure’ step should include the

following guidelines: monitor whether modules address the rationale and exit outcomes; guard against a too narrow occupational focus of modules by addressing ‘general education’ outcomes as well. The ADEd assessment regulations were well specified and introduced successfully higher pass requirements for both theoretical and practical performances as well as a re-test opportunity. An improved programme framework for the UNAM context needs to advise designers to pay attention to the rating scales or band descriptors of performance assessment instruments as such scales impact on the quality of the assessment. The involvement of the NQA and other external stakeholders in the ADEd design was a positive development. The proposed step twelve, however, needs to state clearly that *informal* (not formal as specified) approval of the NQA must be obtained to be sure that the programme would meet the *minimum requirements*, while possibly including further necessary content.

On the whole, it became clear that the proposed design framework is very comprehensive, addressing the distinctive features and also the possible limitations of CBE. The UNAM context would find the proposed framework appropriate with some alterations in sequence and some added details. The established local National Qualification Authority is fully operational and all programmes must be accredited by them. The UNAM top management as well as the Faculty of Education management are therefore more susceptible to CBE perspectives if not from their own free will, then because of the legal consequences of non-compliance with national regulations. It was found that the current UNAM context is positively oriented towards CBE design perspectives and that exit and learning outcomes are applied, even ‘general education’ outcomes are included and that a CBE format of modules is advocated. The one design step that needs more change towards CBE in the current UNAM context is the one of ‘assessment’. Although some assessment policies and practices are moving towards CBE other CBE dimensions, such as performance assessment, still need to be improved.

The analysis of ADEd pointed out that the design analysis questionnaire of ADEd could be improved upon considerably and should be gathering feedback regarding *all* design aspects (especially regarding content organisation, scope and depth) and not just a few.

In terms of the analysis of the ADEd *implementation steps* the following could be noted: The ADEd framework lacked a step about ‘managing administrative changes’. It is no wonder then

that the ADEd case did not succeed in changing relevant policies and structures, for instance workload formulae of staff. The proposed ‘managing administrative changes’ step addresses the important issues for the UNAM context such as ‘adapted assessment records’, a ‘subject teaching methodology policy’ and the ‘contracting of teachers’ for teaching methodology subjects. What needs to be addressed also is that *the system* of using student feedback questionnaires must be established. The original ADEd design and implementation document (cf. Appendix 5) did not attend to a step such as ‘establishing a CBE instructional management system’ (cf. step 14 of proposed framework). In reality some dimensions of this step were addressed but the lesson learned is that not having a strong focus on this step results in poor team work and no unified CBE practices. An improvement regarding this proposed step for the UNAM context should involve procedures to promote cooperation among staff; the availability of module descriptors and the requirement that assessment results should be interpreted. Bridging and RPL was reflected by the ADEd steps but was not implemented for understandable reasons. The proposed framework lacks encouragement of designers to reflect on the types of bridging programmes. The ADEd timetable was accurately compiled and disseminated but did not reflect the slots for teaching practice to ensure alignment of the ‘education timetable’ with other faculties. A possible improvement regarding the timetable for the UNAM context is that this step could be moved till after steps seventeen and eighteen (appraising the need for staff) because details of these two steps impact on the timetable. The ADEd case addressed provision for physical facilities well, however, it is a typical limitation of CBE to provide new facilities for large cohorts of students. An improvement in the proposed framework (Table 3.9) could involve sequencing the ‘facilities’ step after the ‘appraising of staff’ since staff information influence the facilities required. In terms of step eighteen (need for staff), the ADEd contracted experienced teachers to present subject methodology modules and a lecturer from another faculty was employed in order to manage the need for staff effectively. It is positive that the proposed step emphasises additional contract lecturing and administrative staff since CBE requires a lot of administrative and learning support duties – something that the current UNAM workload policy already acknowledges. The ADEd task force did well in recognising that relevant teaching-learning resources (cf. step 19 of Table 3.9) are an integral part of CBE ‘facilitation and self-directed learning’. The proposed ‘identifying required teaching-learning resources’ step is commendably incorporating resources for *teaching practice* as well, which is an important issue in the UNAM context where many schools are hundreds of kilometres away from UNAM. The ADEd task force compiled and

provided a budget to Senate based on the details of the applied design and implementation step framework (cf. Appendix 5) thus demonstrating the helpfulness of such a framework. The 'budget step' could be moved three steps till after step twenty three (training staff) depending on the perceived function of such a budget in the UNAM context. The details of the proposed step of 'advertising to procure students and staff' (cf. Table 3.9, step 21) are comprehensive and ADEd responded well to these details in a timely fashion. ADEd reflected the proposed ideas well in terms of 'selecting staff and acquiring teaching-learning resources' (step 22). An improvement regarding this proposed step might be that it refers pertinently to the UNAM 'study guide system' and states clearly that lecturing staff must be aware of CBE and be willing to operate in a UNAM CBE oriented context. By addressing this during interviews the selection process deals with a possible CBE limitation of 'managing of change' and 'interpersonal conflicts'. The ADEd implementation involved a staff and student induction / training regarding some CBE features and changed roles requirements but it was not nearly in enough depth. A further improvement of the proposed step is that a 'prolonged training programme is planned' as such continuous training is usually one of the advantages (cf. Section 2.6.2) of CBE or, if not conducted, it is a limitation. The ADEd framework did not provide for a pilot of a programme, though the whole programme was viewed as a pilot. In reality some ADEd dimensions were monitored and feedback from staff and students obtained. One lesson to be learned from the ADEd is that some admission tests could be done successfully before registration of students. Two improvements to the proposed step are that it should also advise designers 'to use the results of the monitoring process to improve the system and the monitoring process needs to be done by 'an appointed team'. The ADEd framework correctly observed the step of 'continuous programme evaluation' (step 25) but since the ADEd was terminated such continuous evaluation never took place. The proposed framework addresses this important step comprehensively and could be further improved by adding guidelines that the UNAM context must ensure the student feedback questionnaires incorporate CBE perspectives of 'facilitation', 'learning support' and 'performance assessment'. In addition, a contextualised framework could advise the faculty that the 'success of RPL students and the bridging programmes' needs to be evaluated. The ADEd framework did not have a 'certification step' (step 26) and the certification documents were not reflecting competencies as they could have done. The proposed framework includes such a step and therefore suggests that certification is an integrated part of CBE implementation. It seems acceptable that designers should capitalise on the 'detailed documentation' (cf. Section 2.3.4.7)

as a type of DACUM chart is added to the certification documents to the benefit of students and employers.

It was indicated that the UNAM context is already promoting several of the CBE implementation features which implies that the current context is more susceptible to the application of CBE implementation features. Steps where further developments are necessary are ones like physical facilities, appraising / provision for staff needs, funding to operate budgets, training of staff in CBE perspectives, continuous evaluation and monitoring exercises and the certification documents which do not provide a chart of achieved competencies.

Overall, the ADEd programme stimulated critical reflection on academic traditions and although traditional views mostly remained intact, it broadened academic horizons and perspectives of internal and external stakeholders. While ADEd was ahead of its time the current national context requires institutions to follow National Qualification Authority guidelines in order to obtain accreditation of their qualifications. The current UNAM context is therefore implementing CBE programme characteristics more readily than in the past.

The next chapter delineates the research synthesis, conclusions and recommendations.

## **CHAPTER 7: RESEARCH SYNTHESIS, CONCLUSIONS AND RECOMMENDATIONS**

### **7.1 INTRODUCTION**

The constantly changing workplace requirements, the rapid increase of knowledge, the availability of information as well as technological and political developments require not merely lifelong learning but learning that promotes competent employees (cf. Chapter 1: Section 1.1; Chapter 3: Table 3.3, 3.4). Competence involves development of occupational and general knowledge, skills and personal traits (cf. Chapter 1: Section 1.4.3). As a consequence, educational institutions need to revisit their goals (cf. Chapter 1: Section 1.2) and ways of designing and implementing their programmes (cf. Chapter 2: Section 2.4; Chapter 3, Table 3.9).

After Namibia gained its independence in 1990 the teacher education programmes inherited from South African rule were adapted; however a discipline-based approach was still applied. The first competency-based designed programme, the Advanced Diploma in Education, was piloted in 1997 (cf. Chapter 4: Section 4.2; Chapter 5). At that time exploring CBE programmes was not welcomed. However, by 2007 Namibia had accepted such a CBE approach to education and a National Qualification Authority had been established to evaluate and accredit programmes according to CBE criteria (cf. Chapter 2: Section 2.3.4; 2.4). The University of Namibia is thus compelled to evaluate the design and implementation of their programmes to meet the NQA requirements. It is an opportune time for this study to make a contribution concerning CBE programme design and implementation (cf. Chapter 3: Table 3.9) both within the UNAM and the broader Namibian educational institution context (cf. Chapter 1: Section 1.2).

The six previous chapters of the study dealt with the following concerns: Chapter One provided an orientation to the study and described the motivation for and some potential value of the study. It also stated the research problem and questions, and clarified the major concepts related to the title. Chapter Two addressed the first sub-research question concerning the characteristics and appropriateness of CBE for teacher education programmes. This involved examining of teacher education models and paradigms highlighting more successful and less successful teacher education strategies in developing countries and how the models, paradigms and strategies relate to features of CBE (cf. Chapter 2: Section 2.2). The origins, expansion and

features of CBE applicable to teacher preparation programmes were also delineated (cf. Chapter 2: Section 2.3, 2.4) and the appropriateness of CBE for teacher education was discussed (cf. Chapter 2: Section 2.6.1 - 2.6.3). Chapter Three addressed the second sub-research question on what constitutes a CBE design and implementation framework for teacher education programmes. In order to create such framework ten examples of CBE programme designs and implementation frameworks were analysed (cf. Chapter 3: Section 3.1), synthesised (cf. Chapter 3: Section 3.2), and further expanded through theoretical perspectives (cf. Section 3.4, Table 3.9). Chapter Four described the chosen research paradigm for this study (Section 4.3), a case study design (Section 4.4) and methods of data generation (Section 4.5). The assumptions and limitations of the research were identified (Section 4.7, 4.8) and the ways of ensuring validity and reliability of the research are described (Section 4.9, 4.10). In Chapter Five the ADEd design and implementation data were presented. This empirical data provided the basis for an analysis in the following chapter. Chapter Six critically addressed the third and fourth sub-research question by analysing (according to the framework in Table 3.9) how the ADEd programme corresponded to the identified CBE design and implementation framework characteristics. Chapter Six also stated whether the current UNAM context would impede or promote the implementation of CBE. The final chapter, Chapter Seven, synthesised the research, drew conclusions and offered recommendations regarding the design and implementation framework of CBE teacher education programmes at UNAM and as to whether the current (2007) UNAM context would impede or promote the implementation of such a CBE framework. Finally, recommendations for further research were made.

## **7.2 RESEARCH SYNTHESIS**

### **7.2.1 Research aims**

This study set out to analyse the design and implementation phases of a UNAM teacher education programme, the ADEd, with the purpose of developing a more valid CBE programme framework that could be contextualised. The primary research question was therefore stated (cf. Chapter 1: Section 1.3) as: In what way can CBE serve as a useful theoretical framework to design and implement a teacher education programme at the University of Namibia? The research aim resulted in the following four sub-questions:

- (a) How appropriate is CBE for the design and implementation of a teacher education programme at the University of Namibia?
- (b) What constitutes a design and implementation framework of a competency-based teacher-education programme?
- (c) How did the design of the ADEd programme correspond to the characteristics of such a CBE design framework?
- (d) How did the implementation of the ADEd programme correspond to the characteristics of such a CBE implementation framework?

### **7.2.2 Conclusions regarding the first sub-question**

In order to conclude whether CBE is appropriate for teacher-education programmes at UNAM, the characteristics, advantages and limitations (cf. Chapter 2: Section 2.3-2.6) of CBE were analysed. In addition, the differences between CBE and SBE were highlighted (cf. Chapter 2: Section 2.5) and the extent to which CBE correlates with teacher education models (cf. Chapter 2: Section 2.2.1) and successful teaching education strategies in developing countries was established (cf. Chapter 2: Section 2.2.3). Regarding the CBE characteristics it was pointed out that a number of unique CBE characteristics are reflected in the design and implementation framework of a competency-based teacher education programme (cf. Chapter 2: Section 2.3.4 and Table 2.2). I shall briefly discuss these characteristics as they emerged from this study.

It appears that there might be three models for the CBE paradigm of which the ‘transformational model’ seems applicable to Namibia. It also appears that certain philosophical perspectives permeate the programme design and implementation. For instance, ‘support to achieve success’ and the ‘integration of education and training’ are major departure points for CBE programme design and implementation. Furthermore, it seems that occupational roles from different categories that include ‘general education’ are developed into exit and learning outcomes which serve as the starting point of a systematic ‘design down’ process, while outcomes as intended results are pre-specified and encompass knowledge, dispositions and competencies. Another unique CBE characteristic is that some or all of the programme content is organised into interdisciplinary modules rather than traditional disciplines, while learner-centred and constructivist related teaching-learning perspectives are applied. To ensure a successful



implementation of CBE staff training is emphasised throughout and adequate resources appear to be a necessity rather than an option. A range of instructional modalities and individualised pacing is applied, while assessment of knowledge and competence focus on deep learning and transferability. Moreover, detailed programme design and implementation documents are created that serve accountability, instructional management and certification needs. CBE features also emphasise the recognition of prior learning to promote access to education which is a desirable feature in a developing country such as Namibia.

These characteristics are important to the argument and clearly reflect the distinctive differences with SBE (cf. Table 2.3) that need to be integrated with the above characteristics by programme design and implementation frameworks. This includes the following issues: CBE defines 'quality education' as preparing persons for life which implies that knowledge is seldom a purpose in itself. In addition, the scope and depth of qualification levels are seemingly determined by set standards which are developed with input from many key stakeholders, while the emphasis is on outputs captured by outcomes that focus on both society utility needs and student academic performances. It also appears that individualised progression should be allowed for as far as it is feasible and lecturers should be facilitators who develop self-directed learning of the students rather than being the ultimate sources and transmitters of knowledge. Integrated assessment emphasises both knowledge and skills and is criterion-based, while institutional management structures and policies create a supportive learning environment to ensure a high rate of success for students and staff.

Regarding the teacher education models (cf. 2.2.1) and potentially successful strategies in developing countries (cf. 2.2.3) it appears that CBE accommodates valued teacher education features such as studies in educational sciences that cover knowledge of self, of schools, of societal contexts, of assessment, technology and classroom management. CBE appears furthermore to address teacher education model features such as a wide range of occupational and general roles that involve development of skills, knowledge and values. It also accommodates academic subject studies that form the basis of 'what to teach' and studies in subject matter teaching-learning methods as the basis of 'how to teach'. CBE, moreover addresses the concept of 'good teaching' that is apparent in courses and field experiences while adequate provision is made for teaching practice as an integrated way of learning by doing. In

addition, well-defined standards guide acquiring of knowledge and teaching practice, and school-university partnerships are based on shared beliefs and cooperating teachers. Other important teacher education model features that CBE appears to apply are comprehensive assessment which is bonded to instruction and assessment results which are used to improve the intended learning; also cultural diversity is recognised and provided for and ongoing professional development integrates education and training features while realising that the ultimate criterion of effective teaching is the growth in the learners' learning.

In addition to the above features of the teacher education, CBE incorporates teacher education strategies perceived as successful for developing countries (cf. Section 2.2.3) such as the involvement of school teachers and teacher circles in teacher education planning and practices as well as the application of continuous in-service training and integration of pre- and in-service. Training also focuses on real expressed teaching needs as opposed to theoretical issues and self-directed study is supported while the use of appropriate technology is seen as an integral part of a supportive teaching-learning environment.

The above characteristics of CBE as a theory, curriculum design and teaching model would appear appropriate for teacher education if possible pitfalls (cf. 2.6.3) are to be recognised and countered. The following possible serious *limitations* of CBE (cf. Chapter 2: Section 2.6.3) in teacher education could be pointed out: Programmes could have an overemphasis on competency resulting in less emphasis on academic knowledge which could be deemed as lowering of standards. Related to this is the perceived problem of fragmenting discipline knowledge. Since CBE paradigms are often introduced by government rather than by academics, institutional autonomy is reduced because a number of NQA regulations are to be adhered to in order to gain programme accreditation. The managing of individual and institutional change requires much time and ongoing communication, otherwise stakeholders' acceptance and co-operation might be diminished. This point implies that an extensive period of time is needed before programmes could be implemented. A broad spectrum of administrative and academic changes is required and, if the necessary administrative changes are not implemented, a well designed programme might be rendered ineffective. Another limitation in implementing CBE in teacher education programmes could be disagreements which fuel interpersonal conflict that might prevent co-operation among internal and external stakeholders and result in unsuccessful programme

implementation. It is also understandable that without training of staff in CBE perspectives the effective implementation of a programme is likely to be impeded since new roles are required of such staff. The implementation of CBE means that students must have the ability and commitment to take responsibility for their learning while student support resources must also be available in order to develop them towards self-directed learning. This situation is especially applicable to Namibia where the schooling system often does not succeed well in developing self-directed learning skills in the majority of learners and the Faculty of Education needs to address this. The advantage of involving many stakeholders in programme development through different methods has the limitations of being very time-consuming as well as administratively demanding. The CBE teaching-learning and assessment perspectives require a range of resources for students and staff without which rather limited quality education could be achieved. In addition, the implementation of performance assessment requires new assessment policies, instruments, simulated and real workplace environments and extensive administration. It is also clear that the planning as well as teaching-learning and assessment practices would result in higher workloads which might discourage staff if such activities are not formally recognised. A further limitation of CBE is that the design and implementation processes require enormous paperwork which also involves time and money while the start-up implementation costs are high owing to the need for adequate facilities, teaching-learning resources and increased staff. These limitations must be recognised and if not accepted as part of quality assurance, could deter institutions from the CBE philosophy.

When programme designers are aware of and address the above limitations CBE could have powerful advantages, given proper planning, resources and management. The following relevant conclusions about the potential advantages of CBE could be drawn (cf. Chapter 2: Table 2.4, Section 2.6.2): The national standards might be debateable but they ensure consistency in the quality of credentials and locally acceptable quality education, while the divide between education and training is narrowed which allows for accreditation between modules and qualifications. A wide range of providers is recognised, thereby broadening the national education system without government having to finance the expansion. In addition, the responsive nature of CBE promotes national development in several fields because education is perceived as much broader than training for occupational needs. The 'graduate-competent' nature of CBE programmes, the offering of bridging courses and the application of RPL could broaden

access to teacher / university education and provide a university with a competitive edge in terms of market share. Additionally, CBE graduates who possess knowledge, occupational competence and generic skills could improve the public image of an institute which in turn might attract more students and donors. Another positive feature of CBE is that the common overload of programmes could be reduced because of a content selection which is made on fitness-for-purpose criterion and the accurate monitoring of detailed modular documents. Research and publications on CBE instructional and management practices are potentially stimulated as proponents and opponents evaluate the effectiveness of the newly introduced paradigm while staff development due to training in CBE theories and practices is promoted.

In addition, it was pointed out (cf. Chapter 2: Section 2.6.1) that CBE could be appropriate for teacher education as it encompasses both education and training, focuses on both the teaching-learning process and product and is, therefore, no more a form of human engineering than any other approach to education. Moreover, although outcomes direct programmes CBE has moved beyond narrow behaviouristic perspectives to incorporate cognitive and humanistic perspectives. CBE is furthermore an education system rather than a management or evaluation system as it is driven by the successful attainment of outcomes for the majority of students. Depending on the definition of quality education, CBE need not be equated with lowering of standards although sometimes students that should not have become teachers are supported rather than cut from a programme. Although assessment of competence is complex, educators have proven that this could be implemented with an acceptable degree of validity.

On the whole it appears that CBE might be appropriate for teacher education in Namibia especially if its limitations are recognised and addressed.

### **7.2.3 Conclusions regarding the second sub-question**

This section provides conclusions regarding the question of what constitutes a design and implementation framework of a CBE teacher-education programme. It was pointed out (cf. Chapter 3: Section 3.1) that although some steps appear to be similar to discipline-based design steps, the details of the steps reflect the realisation of the uniqueness of CBE perspectives. Chapter 3 (Section 3.1) analysed and discussed ten CBE programme design and implementation

frameworks in order to create a synthesised framework (Section 3.2). This synthesised framework (Table 3.1) encompasses twelve design and twelve implementation steps. The synthesis framework represents the experiences and recommendations of several educational institutions in different countries. The conceptual framework was expanded further through theoretical perspectives (cf. Chapter 3: Section 3.3) and included two additional implementation steps, namely that of ‘compiling bridging courses and materials’ and ‘certifying students’ (cf. Table 3.9). The steps have been labelled and sequenced to capture CBE perspectives (cf. 2.3, 2.4, 2.5 2.6) in a logical fashion. Although a degree of flexibility is possible in attending to the components indicated by the steps, certain steps need to be preceded by particular steps. It was indicated how the different steps and their details could accommodate the unique features of CBE (Chapter 6) over and above the common programme elements.

The following conclusions might be noted regarding the ideal CBE teacher education programme *design* framework: The first step ‘managing of change’ is a typical CBE related programme design step, proposed by designers who experienced the turmoil of introducing CBE perspectives. Ongoing communication and documents are recommended for this step to ensure that dealing with change is not neglected, thus becoming a limiting factor (cf. 2.6.3) for introducing CBE. Discussion of CBE terminology, national qualification frameworks and academic freedom would clarify the appropriateness or not (cf. 2.6) of CBE and deal with resistance. Although the synthesised framework emphasises managing of ‘individual’ as well as ‘institutional’ change, it must be recognised that positive individual relationships are crucial for acceptance of change. The systematic development of a CBE programme requires a lot of time and step two suggests the need to have a project time schedule that incorporates both design and implementation steps in order to manage the programme development well. Step three of ‘conducting a situation analysis’ needs to be this early in the framework as all factors influencing the ‘design down’ of the programme such as NQF regulations, features of learners and an occupational analysis, are then addressed. The details of step three indicate – as they should according to Section 2.4, Table 2.2 - that factors on an ‘international, national, institutional and module level’ be considered to ensure a systematic analysis that would address the possible limitations of CBE. The creation of ‘dacum charts’ with broad stakeholder input at this stage can be useful for certification. Once the education needs are established it is logical to determine the

type and level of a qualification and in particular the local national framework guidelines for qualifications that would address these needs as suggested by step four.

To have a rationale (step five) which states the main goals of a programme is a step applied by most programme designs. The unique features of CBE are, however, becoming clear through the *nature* of the rationale. Typically a CBE rationale covers goals related to ‘general’ and ‘occupational’ education (cf. Section 2.3.4.2, 2.5, Table 2.3) and should in addition lay a foundation for different career paths, for instance as mentor, as administrator or as support teacher. Having a rationale is also in line with having ‘exit outcomes’ as proposed in step six. It is positive that the ‘formulating of the exit outcomes’ warns designers against the pitfalls of too narrow CBE focus, thus addressing one of the possible limitations (cf. 2.6.3) of CBE. Teacher education programme designers need to observe models for identifying and incorporate competence roles that develop ‘values and attitudes’ as opposed to the typical ‘competencies’. The uniqueness of CBE ‘admission requirements’ is reflected by the effort to address broader access (cf. 2.3.4.1) through bridging and RPL. The relationship between admission criteria and bridging programmes must be clear and CBE designers need to be careful not to admit unsuitable candidates into a teacher education programme. This can be done by using appropriate admission tests apart from subject scores. The delivery mode needs to be effective, feasible and reach a wide range of students. The proposed steps seven and eight dealing with admission and delivery mode respectively fit logically together; however, one could argue that they could fit into the framework after step ten which deals with ‘establishing of the programme structure’.

An analysis of the ten programme frameworks indicates that CBE designers differ about the sequence position of ‘compiling module descriptors’. The researcher maintains that because CBE designs depart from identified needs / standards the compilation of module descriptors needs to be done before the ‘programme structure’ (step ten) which is based on such standards. The programme structure should allow for institutional initiative to expand on NQA minimum requirements. In addition it is positive that the module descriptors (step nine) address a possible limitation of ‘incoherent knowledge’ and that ‘workplace learning’ module descriptors which aim to develop ‘competence’ as a unique CBE feature, are also compiled. The format of module descriptors is an important indicator of the programme scope and depth regarding competence and knowledge and it is advisable to follow a standardised template. What the synthesised

framework does not state clearly is that it is advisable that module descriptors compiled by individuals are monitored by departments and thereafter by a representative curriculum committee. The curriculum committee would monitor whether standards and levels are met, eliminate duplications, change the sequence of outcomes and might suggest additional issues to be addressed beyond the required standards. All such changes would then be discussed with the relevant departments.

The details of step eleven about assessment meet the CBE features of learner support through possible re-testing, continuous assessment and feedback while also addressing the complexity of ‘competence’ assessment (cf. Section 2.3.4.6) through different methods. In addition, performance assessment instruments and their rating scales deserve careful consideration, for example, a fifty percent performance is rarely perceived as effective and the passing requirement needs to be much higher in many cases. Moreover, the assessment policy needs to allocate enough weight to ‘practical work’ as opposed to theoretical understanding. Also typical of CBE is the involvement of relevant stakeholders (step twelve) from the beginning through to the evaluation of programmes. The details of step twelve suggest that NQA approval of the programme is obtained *before* senate approval of the programme and this raises the question of academic freedom again. Senate could approve programmes without obtaining NQA approval first; however, it would be wise if Senate at least *monitored informally* that the programme meets the legally required *minimum* NQA standards.

The synthesised framework separates the ‘design’ and ‘implementation’ steps although the numbering of the steps indicates that they form a holistic framework for introducing CBE. The implementation oriented steps emphasise that a quality programme should be backed up by the necessary management policies and structures on both institutional and faculty levels. The following conclusions might be noted regarding the ideal CBE *implementation* framework: Step thirteen attends to administrative changes (cf. Section 2.5) such as workload policy, reward system and assessment records. The ‘managing of administrative changes’ is also the one step where the Faculty of Education management needs to *request* relevant *institutional* changes and negotiate with other faculties regarding their academic subject content input into the teacher preparation programme. This step is, therefore, very important to the successful implementation of CBE. Failure to bring about the necessary institutional changes could limit the quality of a

teacher education programme. The researcher contends that some important issues such as a policy of 'quality assurance' and 'student support services' were not addressed by the ten programme frameworks. Section 2.3 highlights CBE features such as 'expanded learning opportunities' and 'supportive learning environments' and step thirteen needs to reflect this. The *institutional* administrative changes logically precede the next step (step fourteen) that addresses 'instructional management' on a faculty level. Step fourteen proposes and rightly so, that the 'detailed documents' (cf. Section 2.3.4.7) of CBE serve the instructional management in a faculty. Establishing a CBE oriented instructional management system enables effective implementation as it proposes reflection on faculty structures, dissemination of staff development information and the keeping of instructional documents on file in departments.

Step fifteen involves the development of bridging modules that develop possible subject knowledge and lifelong learning skills. Step sixteen addresses the design of a timetable and proposes that the 'work-based learning' as an important feature of CBE (cf. Section 2.3.4.5 and 2.4) is indicated and aligned with the institutional timetable. Step seventeen makes provision for the necessary physical facilities required by the CBE learner-centred approach and focuses on competence (cf. Section 2.3.4.1, 2.3.4.5, 2.5). Step eighteen and twenty one make provision for more academic and administrative staff owing to higher workloads (cf. 2.6.3) required by a CBE system. Step nineteen and twenty two ensure that designers identify and acquire the necessary teaching-learning resources that would promote self-directed and experiential learning (cf. Section 2.5) of a CBE system. Additionally, this step emphasises the identification of resources applicable to teaching practice and access to the Internet. Step twenty suggests that a budget be compiled by using the framework steps which would indicate the costs involved in the start-up (cf. Section 2.6.3) of CBE. Step twenty (budget) could probably be moved till after step twenty three (training of staff). Step twenty three proposes the training of staff in CBE theory and practices (cf. Section 2.4) since the successful implementation of CBE relies on this training. The piloting of the programme (step twenty four) allows for monitoring of whether the implementation of CBE meets the designed features such as student support, the need for lecturers to act as facilitators, for accuracy in the assessment of competence and for effective execution of the management of instruction. Step twenty five requires, in typical 'systems' fashion applied by CBE, that all relevant issues are evaluated on either a semester, annual or longer term basis and that the results are used to improve the system. The distinctive CBE



feature about the final step of ‘certification’ is that ‘qualification documents are accompanied by lists of competencies achieved’ (cf. Table 2.2), and that CBE certification specifies more details than SBE certification does (Table 2.3). These detailed documents of CBE are one of its unique features (cf. 2.3.4.7) and have some advantages for different stakeholders (cf. Section 2.6.2) but also disadvantages (cf. Section 2.6.3). Nevertheless, considering the design, teaching and assessment focus of CBE programmes concerning competence, it makes sense that the *certification* should also reflect this focus. As indicated previously, dacum charts produced during the situation analysis might be appropriate for this purpose and both graduates and employers might benefit from such identified competencies (cf. Table 3.9).

The respondents to the international survey (cf. Appendices 11, 12) concluded that the described ideal CBE framework was ‘detailed’, ‘complete’, ‘systematic’, and emphasised that module descriptors should not have a ‘too narrow knowledge’ focus. These respondents furthermore emphasised that the interrelatedness of steps require that the processes involved are cyclical rather than linear, that continuous stakeholder participation is important and that piloting and continuous evaluation of the programme are necessary (cf. Chapter 5: Appendix 12). It was also seen as important that an implementation framework accompanies the design framework to ensure effective programme implementation (cf. Chapter 6: Appendix 12).

The synthesis framework above proposes many ‘separated steps’ rather than ‘phases’ as some of the analysed examples indicate. The researcher contends that separated steps leave less room for uncertainty in the minds of programme designers about the precise practical sequence or features of the steps within a phase rather than the clustering of factors into phases. The clear activities for each step require a systematic focus and documentation that assists accountable management. For instance, specified competencies and knowledge in module descriptors are helpful to determine the need for staff. The format of module descriptors reflects what teaching-learning resources would be required which allows for more accurate budgeting, time management and work allocation to administrative and lecturing staff.

#### **7.2.4 Conclusions regarding the third sub-question**

The expanded synthesised framework was applied to evaluate the ADEd framework (cf. Chapter 6). The analysis per step in Chapter Six focused on three questions: What are the distinctive CBE characteristics as represented by Table 3.9? How does a particular ADEd step correspond to these characteristics? How would the *current* UNAM context impede or promote the application of a CBE framework? The following conclusions could be drawn regarding the ADEd design framework (cf. Chapter 6: Section 6.3): The ‘management of change’ (step one) was not recognised as an important (first) step and the advantages and limitations of CBE were not discussed with internal and external stakeholders. This had negative consequences since addressing change could not be disregarded, no matter whether it is addressed as step *one* or *three*. A time schedule was followed but the schedule did not include the design activities that would allow for more accurate and complete time and activity planning of programme development. Some dimensions of the situational analysis were covered well, e.g. perceived deficiencies of the target group, a response to local needs and the broad involvement of external stakeholders. Other dimensions, however, such as massification, international trends in higher education and a wider African perspective were neglected. Furthermore, occupational roles were not used as departure points but rather atomistic tasks, resulting in not enough depth for an advanced level qualification. The situation analysis was not done systematically from a macro (international level) to a micro level (module level). It appears furthermore that the situation analysis step might be moved to become the first step rather than the third one as proposed, because the awareness of needs really leads to time planning and the management of change.

The ADEd case specified the ‘type of qualification’ according to the needs analysis, but did not quite meet the NQA regulations regarding that level. This is an important issue to note that such NQA level requirements must be observed in the UNAM context. A rationale and exit outcomes were formulated for ADEd; however they did not adequately cover general educational goals such as ‘citizenship or community development’. The analysis observed that the ‘rationale’ and ‘exit outcomes’ might be collapsed into one step without altering the features of CBE or hampering its practical planning. What could be added to this new integrated step is the suggestion that the particular CBE model to be followed is clarified. Furthermore, it must be indicated that the exit outcomes could also include knowledge and general education outcomes to prevent a too narrow occupational focus. The admission requirements of ADEd were addressed thoroughly but separated unnecessarily the issue of RPL from admission requirements.

A lesson to be learned from the ADEd 'admission step' is that English proficiency tests (and thus possible others) could be successfully conducted before registration. The admission step and the delivery mode step belong logically together; however, both could be moved till after proposed step ten about the 'programme structure' as this would allow an overview of the module content that might impact on admission criteria.

The delivery mode of ADEd was specified very accurately and addressed the needs of the target group well, thus accommodating the CBE feature of 'broadening access' and 'relevant to society needs'. The ADEd module descriptors' format lacked some headings and the content outcomes were not systematically developed into competencies and knowledge per competence. Unlike typical CBE, the programme structure (step ten) was developed before the module descriptors, but was quite progressive for that time since the module descriptors included 'market oriented titles', 'combined disciplinary knowledge' and 'differentiated the amount of hours' for modules to reflect priorities. What the ADEd programme structure did not consider was whether the proposed sequence of modules would be suitable for distance education as well – an important contemporary consideration to be reflected by a programme framework within the UNAM context. The 'programme structure' step needs to include the following two guidelines: Monitor whether modules address the rationale and exit outcomes and guard against a too narrow occupational focus of modules by addressing 'general education' outcomes as well. The ADEd assessment regulations were well specified and introduced successfully higher pass requirements (60 percent) for both theoretical and practical performances as well as a re-test opportunity. An improved programme framework for the UNAM context needs to advise designers to pay attention to the rating scales or band descriptors of performance assessment instruments as such scales impact on the quality of the assessment. The involvement of the NQA and other external stakeholders in the ADEd design was a progressive development at the time. Proposed step twelve needs, however, to clearly state that *informal* approval of the National Qualifications Authority (NQA) must be obtained to be sure that the programme would meet the *minimum requirements*, while possibly including additional content.

On the whole the international survey respondents (cf. Appendix 12) were satisfied that the proposed design framework was very comprehensive and systematic but recommended possible flexible sequencing of steps. The international survey respondents were also in agreement that

the distinctive features of CBE such as ‘having outcomes’, ‘modular organisation of content’, ‘learner-centred instruction’, ‘performance assessment’ and ‘recognition of prior learning’ were addressed. In addition, the international respondents re-emphasised the focus on the possible limitations of CBE such as ‘a too narrow occupational focus’, not ‘managing change purposefully’, ignoring ‘indigenous knowledge’ and not providing enough opportunity for practising performances (cf. Appendix 12, Points 19, 15, 21, 20) .

The established local NQA is fully operational and all programmes must be accredited by them. The UNAM top management as well as the Faculty of Education management are, therefore, more open to CBE perspectives if not voluntarily, then because of the legal consequences of not complying with national regulations. It was found that the current UNAM context are positively oriented towards CBE design perspectives and that exit and learning outcomes are applied, even ‘general education’ outcomes are included and that a CBE format of modules is advocated. The one design step that needs more change towards CBE in the current UNAM context is the one of ‘assessment’. Although some assessment policies and practices are moving towards CBE, other dimensions such as ‘performance assessment’ still need to be improved. On the whole, the UNAM context would find the proposed framework appropriate with some alterations in the sequence of steps and additional details in some steps.

The analysis of ADEd pointed out that the *design* analysis questionnaire of ADEd could be improved upon considerably and should be gathering feedback regarding *all* design aspects, especially regarding content organisation, scope and depth. In order for student feedback about the programme design and implementation to be useful such instruments must include both design and implementation components.

### **7.2.5 Conclusions regarding the fourth sub-question**

As in the case of design steps the analysis per step focuses on three questions: What are the distinctive CBE characteristics as represented by Table 3.9? How does a particular ADEd step correspond to these characteristics? How would the *current* UNAM context impede or promote the application of a CBE framework? Against the backdrop of Chapter 6 (Section 6.2, 6.3) the following conclusions regarding the *implementation* of ADEd could be noted: The proposed

‘managing administrative changes’ step addresses important issues for the UNAM context such as ‘adapted assessment records’, a ‘subject teaching methodology policy’ and the ‘contracting of teachers’ for teaching methodology subjects. The ADEd framework lacked a step about ‘managing administrative changes’ and it is no wonder then that the ADEd case did not succeed in officially changing relevant policies and structures, for instance assessment records that provide for re-testing or non-graded assessments; a policy of contracting teachers for teaching methodology subjects and CBE oriented staff workload formulas. Moreover, the instrument for gathering student feedback questionnaires at the time of ADEd was not changed to accommodate CBE teaching-learning perspectives (cf. Appendix 6). The original ADEd design and implementation document (cf. Appendix 5) did also not pay attention to a step such as ‘establishing a CBE instructional management system’. In reality some dimensions of this step such as keeping instructional documents were addressed but the lesson learned is that not having a strong focus on this step results in poor team work and no unified CBE practices. An improvement regarding this proposed step for the UNAM context should involve procedures to promote cooperation among staff; the availability of module descriptors in departments and the requirement that assessment results should be interpreted.

The ‘compilation of bridging courses’ and emphasis on RPL was reflected in the ADEd steps but was not implemented for understandable reasons. However, in the context of a developing country such as UNAM the types of bridging courses do need to be examined. The proposed framework (cf. Table 3.9 in Appendix 9) lacks the impetus to encourage designers to reflect on the types of bridging programmes and this should be addressed by the framework. The ADEd timetable was accurately compiled and disseminated but did not reflect the slots for teaching practice to ensure alignment of the ‘education timetable’ with other faculties. A possible improvement regarding the timetable for the UNAM context is that this step could be moved to after step seventeen and eighteen (appraising the need for facilities and staff) because details of these two steps impact on the timetable. The ADEd case addressed provision for physical facilities well, for instance, a Biology laboratory and lecture rooms; however, the inability to provide new facilities for large cohorts of students without long term planning is clearly a typical limitation of CBE.. An improvement in the proposed framework (Table 3.9) could involve sequencing the ‘facilities’ step after the ‘appraising of staff’ since staff information influences the facilities required. In terms of step eighteen on the need for staff, the ADEd did contract

experienced teachers to present subject methodology modules and a lecturer from another faculty in order to manage the need for staff effectively. The questionnaire feedback from ADEd students confirmed that experienced teachers could be employed successfully. It is positive that the proposed step emphasises additional contract lecturing and administrative staff since CBE requires a lot of administrative and learning support duties – something that the current UNAM workload policy already acknowledges.

The ADEd task force did well in recognising that relevant teaching-learning resources (cf. step 19 of Table 3.9 in Appendix 9) are an integral part of CBE ‘facilitation and self-directed learning’ and flip charts, school text books and video equipment were provided. The proposed ‘identifying required teaching-learning resources’ step is commendably incorporating resources for *teaching practice* as well, which is an important issue in the UNAM context where many schools are hundreds of kilometres away from the University. The ADEd task force compiled and provided a budget to Senate based on the details of the applied design and implementation step framework (cf. Appendix 5), thereby demonstrating the helpfulness of such a framework. The ‘budget step’ could be moved three steps till after step twenty three (training staff) depending on the perceived function of such a budget in the UNAM context. The details of the proposed step of ‘advertising to procure students and staff’ (cf. Table 3.9, step 21) are comprehensive and ADEd responded well to these details in a timely fashion. ADEd also reacted well to the proposed ideas in terms of ‘selecting staff and acquiring teaching-learning resources’. An improvement regarding this proposed step might be that it refers pertinently to the UNAM ‘study guide system’ and states clearly that lecturing staff must be aware of CBE and be willing to operate in a UNAM CBE oriented context. By addressing this during interviews the selection process is dealing with a possible CBE limitation of ‘managing of change’ and ‘interpersonal conflicts’. The ADEd implementation involved a staff and student induction / training regarding some CBE features and changed roles requirements but it was not nearly in enough depth. A further improvement of the proposed step is that a ‘prolonged training programme is planned’ as such continuous training is usually one of the advantages (cf. Section 2.6.2) of CBE and if not conducted is a limitation.

The ADEd framework did not provide for a pilot of the programme, however the whole programme was viewed as a pilot. In reality some ADEd dimensions were monitored and

feedback from staff and students were obtained. One lesson to be learned from the ADEd experience is that some admission tests could be conducted successfully prior to registration of students. Two improvements to the proposed step might be that it should also advise designers 'to use the results of the monitor process to improve the system' and the monitoring process needs to be done by 'an appointed team'. The ADEd framework correctly observed the step of 'continuous programme evaluation' but since the ADEd was terminated such continuous evaluation never occurred. The proposed framework addresses this important step comprehensively and could be further improved by adding guidelines that the UNAM context must ensure the student feedback questionnaires incorporate CBE perspectives of 'facilitation', 'learning support' and 'performance assessment'. In addition, a contextualised framework could advise the faculty that the 'success of RPL students and the bridging programmes' needs to be evaluated. The ADEd framework did not have a 'certification step' and the certification documents did not include 'competencies charts' as could have been done. The proposed framework includes such a step and therefore suggests that certification is an integrated part of CBE implementation rather than existing separately. It seems acceptable that designers should capitalise on the 'detailed documentation' of CBE (cf. Section 2.3.4.7) and add a type of dacum chart to the certification documents which would benefit students and employers.

It was indicated that the current UNAM context is already promoting several of the CBE implementation features which implies that the current context is more open to the application of CBE implementation features although steps where further development are necessary are ones like physical facilities, appraising / provision for staff needs, funding to operate budgets, training of staff in CBE perspectives, continuous evaluation and monitoring exercises, and additional certification documents that provide a 'competencies achieved chart' .

Valuable lessons were learned regarding the implementation of a CBE programme at UNAM, particularly the necessity of the support from faculty management. In addition, the respondents to the international survey observed (cf. Appendix 12, Points 12, 22) the cyclical nature of steps and that the sequence of the implementation steps might change according to local conditions. Moreover, they suggest that the step addressing the 'timetable' might be more appropriately sequenced if it comes after the 'appraising of the need for facilities' (step 17) and the 'need for staff' (step 18) since that information might impact on the timetable. In addition, the

international respondents emphasised the value of an implementation framework to ensure effective implementation of planned programmes (cf. Appendix 12, Points 11, 18). Moreover, they highlighted their agreement with the distinctive CBE features of assessing the range of outcomes via different methods and instruments (cf. Appendix 9, Points 26, 29, 30) to cater for competency assessment as well. The respondents also expressed agreement with the fact that stakeholders should be involved in the continuous evaluation of a programme (cf. Appendix 9, Points 33). The analysis of ADEd pointed out that the ‘design analysis questionnaire’ of ADEd should be gathering feedback regarding *implementation* aspects as well. In order for ‘student feedback’ about the programme implementation to be useful, such instruments must include the distinctive CBE implementation components.

The next section describes the contributions and limitations of the research.

## **7.3 CONTRIBUTIONS AND LIMITATIONS OF THE RESEARCH**

### **7.3.1 Contributions of the research**

The question to be answered is what does this study contribute towards the international resource of academic theory and practices regarding CBE design and implementation on the one hand and towards the Namibian knowledge and practice on the other hand. In addition, it could be asked how might future studies benefit from this research.

Regarding the contributions to the international level the following could be pointed out: A superficial observation about the contribution of the study to CBE programme design theory and practices might be that most of the framework steps and their detailed activities appear to be known. This might be partly true, however, it was indicated under Section 2.3-2.5 how CBE characteristics differ from SBE and are applied uniquely under common curriculum components. The fact is that the main contribution of this study lies in synthesising different international framework examples and ‘integrating loose standing issues’ (known and new) such as ‘quality education’ ‘RPL’, ‘managing of change’ and ‘instructional management’ into a *systematic* design (addressing CBE theory) and implementation (focus on practices) framework (cf. Table 3.9) that is incorporating the unique CBE characteristics (cf. Chapter Three, Chapter Six). The proposed



framework is thus based upon a theoretical underpinning of CBE. The theoretical research after the analysis of framework examples improved the conceptual design and implementation framework with two additional steps (cf. step 15 and 21) and more details for some of the steps (cf. Table 3.1, Table 3.9). The details of the ‘situation analysis’ step and its sequencing from ‘international to module levels’ were improved from a theoretical point of view to include ‘international concerns’ and ‘future trends’ (cf. Tables 3.3, 3.4). This generic conceptual framework could be widely relevant for teacher education programme designers since it is synthesised from international existing frameworks and theoretical perspectives. Another important contribution of this framework is that it points out the *limitations* of CBE in order to guide designers to address such limitations. It incorporates, moreover, not only the distinctive features of CBE but also wider issues such as academic freedom; meeting minimum standards, quality and national standards; the role of exit outcomes; the role of humanities modules (cf. step 9); assessment of competence (cf. step 11); management of change (cf. step 1) and instruction (cf. step 14). Moreover, the proposed conceptual framework incorporates the features of teacher education models in different countries regarding issues such as the length of the programme; total weeks of teaching practice; centralisation or decentralised control of the programmes; different types of partnerships in the design and delivery of the programmes; the values to be developed in teachers and principles underpinning the curriculum, e.g. relevance and learner-centeredness (cf. Chapter 2: Section 2.2.1). The CBE framework steps also reflect particular theoretical perspectives of models such as ‘student-centred’, ‘learning community-centred’ / interactive ‘cultural diversity’, ‘reflective teaching model’, ‘knowing’ but also ‘practice / doing’ and ‘dispositions / being’ of a teacher and ‘best practices’ (cf. Section 2.2.1). The characteristics of well regarded teacher education programmes (cf. Section 2.2.1) and effective teacher education strategies in developing countries (cf. Section 2.2.3) were also correlated with CBE features. Another theoretical contribution of the study is the proposal for a model which designs possible roles for teachers (cf. Chapter Three, Table 3.5).

The proposed synthesised framework is thus the ‘hypotheses’ of the study that was validated through an international survey. The relatively few critical observations about the proposed framework confirms that the ‘integration of many perspectives’ was rather comprehensive and that possible limitations of CBE were addressed adequately. The analysis of the ten programme frameworks and its expansion through further literature research proved that the integration of

'loose standing' CBE perspectives and practices is no easy undertaking and that it would be reasonable to assume that programme designers in possession of the newly proposed framework could benefit from having the 'big picture' of programme development. The proposed framework could even be helpful for SBE programme designers who would like to incorporate some CBE elements in their own programmes or simply use the step headings as a framework to logically develop a SBE programme.

With regard to the question about a contribution to the Namibian CBE knowledge and practices the following could be noted: The study uniquely examines the appropriateness of the current UNAM and Faculty of Education context in terms of promoting or impeding the implementation of CBE. Apart from creating a *generic* CBE framework, a contextualised version for UNAM is proposed which involves changes in the generic sequencing of steps and additional details for some steps. This proposed framework is a unique contribution as such a contextualised framework does not exist in Namibia. The fact is that the current Faculty of Education already applies the proposed CBE design framework and that the UNAM Academic Planning Committee has already approved the 'headings of the design steps' and the 'format of the module descriptors' for all faculties at UNAM (University of Namibia, 2007:9-11).

The study could also exert a wider influence on education institutions in Namibia such as the Polytechnic of Namibia, the Vocational Training Colleges, the National Institute for Educational Development but especially on the four teacher education colleges. Another contribution of the study to the Namibian context is the acceptance of the 'competency model for designing teacher roles' (cf. Table 3.5) by the Standard Generating Body (of which the researcher was a member) of the local NQA. As a consequence the 'general education role' of teachers was incorporated into the standards with outcomes focusing on 'community development' and 'citizenship' (cf. Ministry of Education of Namibia, 2006:112-114). The understanding of the 'teacher roles model' by the Standard Generating Body lead to the acceptance of the proposal by the researcher of three career paths model for teachers, namely 'expert teacher and mentor', 'administrator', and 'support teacher'.

A further contribution to the *practice* of teacher education is that the proposed design and implementation frameworks offer more than curriculum steps and a well conceived qualification.

It provides a basis for policies regarding staff appointments and workload, staff training priorities, accurate budgeting for programmes, valid assessments, instructional management, student questionnaire feedback system, management of change and resources required.

In regard to the contributions to future research the following could be noted: The international survey elicited more responses to the later personalised cover letters than to the original standardised ones. Case studies of a rather old nature such as ADEd pose the threat that the current context is very different from the case study context and discrepancies would have to be addressed. In Section 7.5 suggestions are made for locally and generally relevant CBE design and implementation issues for further research, such as admission requirements, bridging, RPL and the management of change.

In addition, perceived research limitations that could be avoided by future researchers are spelled out in the next section.

### **7.3.2 Limitations of the research**

An important researched related question that should be asked is what could have been done differently in retrospect. The concerns about the research methodology that might be perceived as limiting are the following: The age of the case study; the size of the student cohort of the case study; the focus of the case study documents regarding design and implementation issues; the size of the original and post-hoc population from which feedback was gathered; the nature of the feedback obtained and the types of design and implementation frameworks that were analysed.

In regard to the age of the ADEd it must be pointed out that there is no later CBE programme available at UNAM. The fourteen ADEd students did not influence the *design* framework negatively although the *implementation* of a CBE programme with such a small number of students could produce a positively skewed picture of the challenges of a CBE implementation. The international validated framework counters this possible skewed image and the lessons from the ADEd implementation relate to the *contextualisation* rather than an appropriate CBE framework. The original ADEd documents were not designed with the purpose of establishing a CBE framework and the data thus gathered via these documents did not produce a complete

framework. The international validated framework, however, did produce a comprehensive framework, although seen ideally the eleven respondents to the international survey were rather few. The fact that the eleven respondents approved almost completely the validity of the proposed framework does suggest that the framework appropriately represents CBE perspectives and is structured systematically.

Case studies such as the ADEd programme are idiosyncratic in nature (cf. Chapter 3: Section 3.4.1) and therefore the extent to which generalisations can be made is limited. The political conditions in the Faculty of Education at the time of ADEd caused unfavourable conditions for permanent administrative changes, with the result that the research regarding a CBE implementation framework was less effective than it could have been. The 'equal access' design feature with the resultant 'block delivery system' had a definite influence on the implementation of ADEd and this contextual feature should be recognised as not being an integral feature of CBE programmes, but merely an adaptation to circumstances. The ADEd case dates back a number of years and it should be recognised that current conditions are different (as indicated in Chapter Six) from those of the past. In addition, as the ADEd candidates were not required to participate in teaching practice and the challenges of the administration, development and assessment of competencies were not addressed. These complex challenges should, however, be recognised.

A further possible limitation of this study might be the *size of the population* that provided feedback regarding the design and implementation phases. In total, 86 copies of an ADEd brochure (see Appendix 1) accompanied by a covering letter (see Appendix 2) and over 200 design analysis questionnaires (see Appendix 3) were sent to Faculty of Education members, 34 school principals, seven regional directors, several officials in the Ministry of Basic Education as well as to the Ministry of Higher Education, the four colleges of education, teachers' unions, the National Institute for Educational Development and the National Qualification Authority (Chapter 3: Section 3.5.1). The 17 questionnaires that were received appears to be small but do represent a wide range of stakeholders. Similarly, the international survey did not elicit the desirable broad international response since there were respondents from UNAM (four), South Africa (four) and internationally (three).

Apart from the *size* of the feedback population, the *nature* of the feedback could be questioned. The original ADEd design questionnaire (cf. Appendix 3) as well as the student feedback questionnaire (cf. Appendix 6) were requiring feedback regarding the *features of ADEd*, rather than feedback about the design and implementation steps per se. The post-hoc method focused accurately on the ideal framework of a teacher education programme, however, more formal feedback from Faculty of Education staff regarding the proposed ideal programme could have been obtained in order to enhance the applicability of the framework to the faculty.

The ten framework examples captured design and implementation perspectives from a range of institutions in different countries in a chronological order from earlier to latest frameworks. The frameworks of Blank (1982) and Rothwell and Kazanas (1992) are examples from America. Kennedy (1995) represents an example from Canada while Fletcher (1995) and York Technical College (2001) provides frameworks from Britain. McCann et al. (1998) and Lyon (2003) provide programme frameworks from Texas, while Westraad (2003) and Foxcroft et al. (1998) represent examples from South Africa. In addition, there is an example from Columbia (2002). The scope and time frames represented by the examples seem adequate. The scope furthermore includes three programme frameworks that focus on vocational occupational programmes whilst two examples focus on private enterprise programmes and five examples focus on university programme frameworks. Against the background that Spady's school oriented CBE theories are applied to vocational and higher education contexts it could be argued that well conceptualised CBE design frameworks are applicable to most vocational or professional programmes. In that case the ten analysed framework examples would provide adequate information to compile a valid design and implementation framework for teacher preparation. It might, however, be argued that at least one teacher education framework (apart from the ADEd one) would have been desirable in spite of the fact that the five university framework examples do address teacher education frameworks. Perhaps the proof of the appropriateness of these ten framework examples lies in the extent to which the synthesised framework was overwhelmingly accepted by the international respondents – including Spady himself.

In the next section, a number of conclusions are drawn regarding the contextualised nature of the design and implementation framework at UNAM and two recommendations are offered, based on the conclusions drawn.

## **7.4 RECOMMENDATIONS**

Programme development is a complex endeavour because many factors must be addressed in an integrated and systematic manner as indicated under Section 7.3 above. A systematic approach implies a researched and documented one – as represented by a framework. It was indicated that a CBE programme, like subject-based programmes, consists of basic curriculum components such as a situational analysis, exit outcomes, content, teaching-learning methods, and assessment (cf. Chapter 3: Section 3.1). These components are addressed in a logical sequence as steps within a framework. Table 2.2 (cf. Chapter 2: Section 2.3) reflects the key characteristics of CBE that imply particular steps which must also be addressed in a design and implementation framework. In addition, the comparison in Table 2.3 (cf. Chapter 2: Section 2.5) reflects the different characteristics between CBE and SBE that steps in a CBE framework would have to accommodate. These differences involve different aims of higher and teacher education; national set standards; a focus on competence; organisation of knowledge in multidisciplinary modules; self-directed and co-operative learning modes; criterion-referenced assessment and management structures and policies which promote access, quality and support for staff and students. The steps in a programme design and implementation framework might involve common headings such as ‘compiling syllabi’ or ‘formulating the assessment policy’; however, the unique CBE features must be specified for every step in order to direct the realisation of CBE perspectives (cf. Table 3.9). It is imperative, therefore, for programme designers to have a framework where detailed steps are sequenced in the most appropriate way, bearing in mind their cyclical and ‘spiralling up’ nature.

The analysis of CBE features, programme frameworks and further perspectives gathered, concluded that a comprehensive design and implementation framework is necessary. The following paragraphs offer conclusions and a recommendation concerning the ‘design section’ of a framework in the UNAM context.

### **7.4.1 The nature of a design framework at UNAM**

The key question to be answered is how the lessons learned from ADEd and the international survey influence a design framework for the current UNAM context. Chapter Three produced a

synthesised framework (cf. Section 3.2, Table 3.1) consisting of twelve CBE curriculum design steps. The sequence, headings and aspects of each step were discussed (cf. Chapter 3: Section 3.1) and the detail per design step was expanded further (cf. Section 3.3.1). The expanded design framework (cf. Table 3.9) describes and elaborates on the nature of CBE programme designs. It is clear from Table 3.9 how the steps realise distinctive CBE perspectives; for instance, the ‘managing of the change’, ‘conducting a situation analysis’, ‘formulating the exit outcomes’ and ‘compiling modules’. In addition, it is apparent that ‘developing assessment regulations and instruments’ involves measures to enhance both teaching quality and student success.

The analysis of the ADEd *design* framework (cf. Chapter 6: Section 6.1) highlighted the importance of the following issues for the UNAM context: The change to CBE must be supported by the faculty management. The UNAM top management as well as the Faculty of Education management are more open to CBE perspectives because of the existence of the National Qualifications Authority (NQA) and the ‘managing change’ component could presently (2007) be applied with more success than at the time of ADEd. Ongoing discussion must address the perspectives, for instance, on national qualification frameworks and fears about academic freedom of staff to ensure that dealing with individual and organisational change is not neglected, consequently becoming a limiting factor. The clarification of reasons why CBE perspectives were built into ADEd and had positive effects on ADEd students and contracted teaching staff is needed which corroborates the necessity of communication with stakeholders about programme paradigms (Section 6.1.1).

The systematic development of a CBE programme is a long and complex process and a more comprehensive time schedule, including both *design* and *implementation* steps and corresponding action plans, would allow for better time management (Section 6.1.2). Regarding the situational analysis it must be pointed out that key factors could be systematically addressed from a macro to a micro level such as: international, national, institutional and module level. Furthermore, external stakeholders must agree that the identified target population would indeed address the real education needs of local teachers. The content must also address global and future developments in teacher education and be guided by national standards for teachers in order to ensure accreditation of programmes. The spectrum of teacher roles must address occupational as well as general roles and in addition, a focus on wider African needs regarding

‘citizenship’, ‘quality of life’ or ‘promoting peace’ is necessary. It is important to have a broad range of *key internal and external* stakeholders that buy into the programme to ensure societal relevancy and acceptance of programme quality. When roles are identified the focus needs to shift from limiting atomistic *tasks and procedures* to a more holistic *purpose and outcome* of ‘graduate and competent worker’. An analysis of student characteristics informs the development of bridging programmes, recognition of prior learning, admission tests and the adaptation of modules to accommodate the existing academic levels of students. Apart from addressing English proficiency the current UNAM context must also address the development of students’ self-directed learning skills as a feature of CBE. Owing to the nature of the Namibian school system mode 1 knowledge could not be discarded but a *new ratio* between mode 1 (what) and 2 (how and why) knowledge should be introduced which would reflect the CBE feature of ‘narrowing the gap between education and training’ (cf. Section 1.4.2, 2.4, Table 2.2). Furthermore, the situation analysis needs to consider globalisation and future trends in order to manage the future ‘proactively’ rather than ‘reactively’ (Section 6.1.3).

In terms of step four, (finalising title, level of qualification), the NQA requirements for particular qualification levels must be observed in order to meet minimum standards (Section 6.1.4) but academic freedom allows institutions to move beyond the minimum. Typically a CBE rationale covers goals related to ‘general’ and ‘occupational’ education covering ‘student and society’ needs (cf. Section 2.3.4.2, 2.5 and Table 2.3). Namibian teacher education programme designers need to ask the question therefore: What kind of graduates, citizens and employees does the Namibian society need? Having a rationale is also in line with having ‘exit outcomes’ as a ‘result orientation’ characteristic of CBE. The rationale and exit outcomes must correlate in terms of addressing local, global and future needs and the ‘rationale’ and ‘exit outcomes’ steps might thus be combined (Section 6.1.5-6). Designers must be clear about which CBE model, for instance the ‘transformational’ one, (cf. 2.3.3) is followed. Exit outcomes commonly specify ‘performance outcomes’ but should include ‘knowledge and dispositions outcomes’ to prevent the possible CBE limitation of too narrow an occupational focus (Section 6.1.6).

The ‘admission requirements’ step addresses the distinctive CBE feature of ‘broad access’ through bridging and RPL models, considering the articulation between the schooling and higher education system and reflect on how the perceived features of the targeted student population



match the actual admission requirements (Section 6.1.7). In addition the ADEd experience proved that some admission tests, for example, English proficiency, could be conducted before registration of students. Since English proficiency is still an issue in the current UNAM context this should be duly noted. This step seven could fit into the framework after step ten which deals with ‘establishing of the programme structure’ because having an overview of the content and structure (step nine and ten) of a programme might impact on the type of admission requirements.

The delivery mode must accommodate the circumstances of targeted students to address the distinctive features of CBE regarding ‘individualised pace’, ‘broader access’ or serving ‘student needs’ (Section 6.1.8). In addition, this step could move to after proposed step ten regarding ‘programme structure’ because having an overview of the content and structure of a programme might influence the modes of delivery. The organisation of content into ‘interdisciplinary modules’ as a distinctive feature of CBE (cf. Section 3.3.1.6.) where exit outcomes are developed through performance criteria and possible range statements (cf. Table 3.6 - 3.8) needs to have a standardised format and length and incorporate indigenous knowledge since the understanding of the Namibian context plays an important role in transferability of skills (Section 6.1.9). Moreover, consideration can be given to the mixed use of traditional names for modules and ‘market oriented’ ones. A differentiated allocation of hours for modules needs to be given to reflect the scope of national standards. Module descriptors need also to reflect the NQA level which it is aiming for while consideration must be given to the necessity for prerequisites. It is also important to monitor whether the module descriptors address the rationale and exit outcomes and are not too focused on occupational needs (Section 6.1.9).

It is advisable that the programme structure is determined after the compilation of modules since having an understanding of what content is needed influences the structure of the programme (Section 6.1.10). This sequence seems theoretically logical, however, in reality there is a continuous correlation check between structure and content rather than dealing with one after the other. Furthermore, the appropriateness of the sequence of modules in the programme for a distance delivery mode needs to be evaluated. Assessment policies should (cf. Table 3.9) meet the CBE features of learner support through possible re-testing, continuous assessment and feedback while also addressing the complexity of ‘competence’ assessment (Section 6.1.11). The

‘rating scales’ or ‘band descriptors’ of assessment instruments applied during teaching practice need careful consideration to ensure valid assessment of competence (Section 6.1.11). The last design step requires that external stakeholders, in particular the NQA, validate informally the complete programme before it is submitted to UNAM Senate. Although Senate could approve programmes at this stage without obtaining NQA approval first, it would be wise to *monitor* at least *informally* whether the programme meets the *legal minimum* NQA requirements to avoid embarrassment later (Section 6.1.12).

The following contextualised design framework is proposed based on the above conclusions. It reflects merely the changes in *sequence* and the *additional* details for some steps to the proposed framework in Appendix 9.

### **Step 1 Conducting a situational analysis**

- Analyse factors from international, national, institutional and module level
- Address development of self-directed learning skills
- Consider the *ratio* between mode 1 (what) and 2 (how and why) knowledge
- Consider the needs of globalisation and future trends in order to manage the future ‘proactively’ rather than ‘reactively’

### **Step 2 Drafting a programme development timetable and action plan**

- Compile a timetable based on both the design and implementation steps

### **Step 3 Managing the change to a new educational philosophy**

### **Step 4 Finalising the title, level, duration and code of the qualification**

### **Step 5 Formulating the rationale and exit outcomes of the programme**

- Clarify which CBE model, e.g. the ‘transformational’ one, is followed.
- Include in exit outcomes (which commonly specify ‘performance outcomes’) ‘knowledge outcomes’ to prevent the possible limitation of a too narrow occupational focus

### **Step 6 Compiling module descriptors**

- Reconsider the focus of non-utility oriented educational disciplines, e.g. History, Philosophy, Sociology
- Consider the mixed use of traditional names for modules and ‘market oriented’ ones
- Allocate differentiated hours for modules to reflect the scope of national standards
- Ensure that module descriptors reflect the NQA level at which they are aimed
- Consider the necessity of prerequisites and keep them as few as possible
- Monitor whether the module descriptors address the rationale and exit outcomes and are not too narrowly focused on occupational needs
- Evaluate the appropriateness of the sequence of modules in the programme for a distance delivery mode

**Step 7 Establishing the broad programme structure**

**Step 8 Determining the admission requirements**

**Step 9 Selecting the delivery mode**

**Step 10 Developing the assessment regulations and instruments**

- Pay special attention to the ‘rating scales’ or ‘band descriptors’ of assessment instruments applied during teaching practice

**Step 11 Obtaining programme approval from key stakeholders**

- *Monitor*, at least *informally*, whether the programme meets the *legal minimum* NQA requirements

Against the background of these conclusions, the following two recommendations are made.

**Recommendation One:**

*That CBE programme designers at UNAM apply a contextualised version of the design framework as presented in Appendix 9 to direct their programme design efforts.*

The next section offers conclusions and a recommendation concerning the nature of an *implementation* framework in the UNAM context.

## **7.4.2 The nature of an implementation framework at UNAM**

The key question to be answered is how the lessons learned from ADEd and the international survey influence an implementation framework for the current UNAM context. The analysis of the previously mentioned ten programme development frameworks (cf. Chapter 3, Section 3.1) served to create a synthesised implementation framework (cf. Section 3.2, Table 3.1). As in the case with the design steps, the sequence, the headings and details of the implementation steps were discussed (cf. Chapter 3, Section 3.1) and the details for some steps were developed further (cf. Chapter 3: Section 3.3.2). The expanded implementation framework (cf. Chapter 3: Table 3.9) describes the nature of CBE programme implementation comprehensively via fourteen steps. Table 3.9 summarises conclusions concerning programme implementation steps, for example, implementation should include: ‘leading and managing administrative changes’, ‘establishing an instructional management system’, ‘selecting staff and acquiring teaching-learning resources’ and ‘training staff in CBE theory and practices’.

Against the background of the analysis of the ADEd implementation framework (cf. Chapter 6: Section 6.2) the following conclusions concerning the UNAM context could be highlighted: It appears necessary to create administrative support for a programme development task force. The management of CBE administrative changes is so important that, should it not happen, it would be a powerful limitation (cf. Section 2.6.3) for introducing CBE successfully. In addition, the comparison of CBE and SBE (Table 2.3) reflects that CBE management structures and policies aim to support ‘quality learning’ and ‘success for staff and students’ (Section 6.2.1). That is why for example, the adjustment of the workload policy for lecturers is important. Furthermore, the negotiation with other faculties to provide the exact academic content input required for teacher education programmes is important. It is also advised that the Faculty of Education accepts an ‘informal policy’ that experienced teachers are appropriate for teaching the ‘teaching methodologies’ although these teachers do not necessarily meet the academic criteria for permanent appointment of university staff. Another aspect of ‘managing administrative changes’ is to use assessment records that could accommodate re-test and non-grading scores while administrative staff need to understand how such marks on the result schedules need to be dealt with (Section 6.2.1). The ‘instructional management’ on a faculty level logically follows the preceding step about ‘institutional administrative changes’. The ‘instructional management’ step

requires linking with previous and following steps in the framework, such as designing module descriptors and conducting continuous evaluation, demonstrating the cyclical nature of the framework. In the UNAM context it is crucial that a system for student feedback as part of the 'instructional management' is put into place. Furthermore, lecturers and departments need to create an instructional management file which includes module descriptors, workloads and previous examination papers as well as analysis of examination results (Section 6.2.2).

Concerning the development of bridging modules the CBE philosophical perspectives (Section 2.3.4.1) advocate that education is about 'developing people' and it should be a 'successful experience for all learners'; therefore, a 'supportive learning environment' should be created. Success for 'all' is debateable, however, the point is that bridging courses could be perceived as part of the supportive learning environment. Reflection on the types and purpose of bridging courses is, therefore, important (Section 6.2.3). The distinctive feature of a CBE timetable is not merely to reflect the weight of core and electives correctly but also to provide for work-based learning (cf. Section 2.3.4.5 and 2.4) as a key element of CBE. Since 'education students' are often also served by other faculties the timetable must be aligned institutionally so that when student teachers visit schools they will not fall behind in other modules offered. One respondent to the international survey felt that this timetable step should be addressed after the 'appraising of physical facilities' and the 'appraising of the need for staff' as these two steps impact on the timetable. This appears to be a reasonable suggestion which would be appropriate for the UNAM context without changing the features of CBE (Section 6.2.4). The distinctive CBE feature of having outcomes that focus on the development of competence (cf. Section 2.3.4.2, 2.3.4.5) requires physical facilities for developing such competence. Having such physical facilities is not an option for CBE but a necessity to achieve quality in this paradigm. This is why this physical facilities feature is identified as a possible limitation for introducing CBE. The step 'appraising the need for staff' should precede the 'appraising the physical facilities' step as the number of academic and administrative staff has a bearing on the physical facilities, e.g. on office needs (Section 6.2.5).

The distinctive feature of CBE regarding 'appraising the need for staff' is that the 'expanded learning opportunities', the 'organising and assessment of competence' and the 'higher administrative workload' to produce module descriptors and have meetings with stakeholders

demand more administrative and lecturing staff than in a traditional SBE system (cf. Section 2.3.4.3 – 2.3.4.7). More staff is thus a necessity to make CBE work and that is why this feature of CBE is listed as a possible limitation (cf. 2.6.3) for introducing CBE. The utilisation of experienced teachers for teaching subject methodologies on a contract basis was proven by ADEd to be effective (Section 6.2.6). A workload policy which favours the appointment of more staff since it recognises the increase in lecturing and administrative activities is important and the option of contract tutors or administrative staff could address additional staff needs (Section 6.2.6). CBE ‘teaching and learning perspectives’ (cf. 2.3.4.5) involve ‘expanded opportunities’, ‘workplace and simulated instructional modalities’ and ‘facilitation of deep, experiential and self-directed learning’, all of which require adequate teaching-learning resources that contribute to the high start-up costs of CBE, is one of the possible limitations for introducing CBE. UNAM students need, however, more prescribed books generally to complement the study guides apart from access to the Internet (Section 6.2.7). The ‘drawing up a budget step’ enables officials / designers to calculate fairly accurately such distinctive costs for individuals and the institution if CBE is introduced. By examining the details of the design and implementation framework steps the cost implications for each step could be incorporated into a budget. Even ‘hidden costs’, such as the ‘phase in and out costs’ could be accounted for through examining the framework. Bearing this in mind the cyclical relationship between other steps and the budget step it would make sense to move this step three steps forward until after step twenty three (training staff) without altering the characteristics of CBE (Section 6.2.8).

The distinctive CBE feature regarding ‘advertising for students and staff’ is that advertising needs to reflect the relevant CBE features regarding expected staff roles and programmes. This transparency regarding CBE features might have negative effects but it was also indicated that there could be advantages in terms of ‘competitiveness’, ‘broader access’ and ‘public image’ (cf. Section 2.6.1). The comparison between SBE and CBE (cf. Chapter Two, Table 2.3) reflects the fact that the CBE lecturer is a ‘facilitator’ rather than an ‘expert transmitter’. This implies that the ‘staff selection’ process needs to search for lecturing staff in particular that is comfortable with the CBE facilitator role, with the organisation of knowledge in modules and is able to assess teaching performances of students (Section 6.2.10). By doing this selection one of the limitations of CBE namely, ‘conflict riddled relationships’ (cf. Section 2.6.3) is addressed and the effective implementation of CBE might be enhanced.

The successful implementation of CBE relies on training of staff which could be seen as a limitation to the introduction of CBE but also can serve as an advantage since it contributes towards ‘quality assurance’, a positive ‘public image’ and ‘growth of lecturers’ insights and competencies’. Staff need, therefore, an induction and continuous training regarding their new CBE roles and administrative duties (Section 6.2.11). The distinctive ‘systems’ nature of CBE dictates that feedback on the success / failure of a system should be obtained and used for improving the system. The piloting of the programme step allows for this monitoring and feedback whether the implementation of CBE complies with the designed features. Several areas must be monitored during the pilot of a programme and the results of the monitor process should be used to improve the system (Section 6.2.12).

Continuous evaluation is also in line with the above stated ‘systems’ nature of CBE and different aspects could be evaluated on a semester, annual or longer term basis in the Faculty of Education. The ‘institutional environment’ effectiveness could be audited in terms of mission, goals, programme quality, effectiveness of administrative policies and structures, staff and student support and growth in student numbers every three to five years. It seems reasonable that the previously mentioned ‘pilot mentoring’ team and an ‘evaluation’ team could be the same ‘quality control team’. In addition, self-assessment needs to be promoted and student feedback instruments need to incorporate CBE features of particular areas. It also seems logical that the success of RPL and bridging programmes need be evaluated as well (Section 6.2.13). The detailed documents of CBE are one of its unique features (cf. 2.3.4.7) which has advantages for different stakeholders (cf. Section 2.6.2) whilst also having disadvantages (cf. Section 2.6.3). Considering the design, teaching and assessment focus of CBE programmes concerning competence, it makes sense that the *certification* as the final implementation step should equally reflect this focus. Dacum charts produced during the situation analysis might be appropriate for this purpose and both graduates and employers might benefit from such identified competencies achieved in a programme. Having ‘multiple exit points with certification’ (as Table 3.9 suggests) must be thoroughly considered, otherwise candidates might end up with lots of ‘mini’ qualification papers that are misleading to employers and too narrow to be of real value (Section 6.2.14).

The following contextualised implementation framework is proposed based on the above conclusions. It reflects merely the changes in *sequence* and *additional* details for some steps as proposed by the framework in Appendix 9.

**Step 12 Leading and managing administrative changes**

- Create assessment records that could accommodate re-test and non-grading scores

**Step 13 Establishing a CBE oriented instructional management system**

- Put a system for student feedback into place
- Create an instructional management file which includes module descriptors, workloads and previous examination papers as well as analysis of examination results

**Step 14 Compiling bridging (pre-entry) courses and material**

- Reflect on the types and purpose of bridging courses

**Step 15 Appraising the need for staff**

**Step 16 Appraising the required physical facilities**

**Step 17 Designing a timetable**

**Step 18 Identifying required teaching-learning resources**

**Step 19 Advertising to procure students and staff**

**Step 20 Selecting staff and acquiring teaching-learning resources**

- Select lecturing staff that are comfortable with or trained in CBE perspectives.

**Step 21 Training staff in CBE theory and practices**

- Involves an induction and continuous training programme for staff training regarding their new CBE roles and administrative duties

**Step 22 Drawing up a budget**

**Step 23 Piloting the programme**

- Use the results of the monitor process to improve the system



## **Step 24 Continuous evaluation of the programme quality and institutional environment**

- Consider whether the pilot ‘mentoring’ team and the ‘evaluation’ team could be the same quality control team
- Incorporate CBE features of particular areas in student feedback instruments
- Promote self-assessment
- Evaluate also the success of RPL and bridging programmes

## **Step 25 Certifying students**

Against the background of these conclusions, the following recommendation is made.

### **Recommendation Two:**

*That CBE programme designers at UNAM apply a contextualised version of the implementation framework as presented in Appendix 9 to direct their programme implementation efforts.*

The next section offers recommendations for further CBE research in the UNAM context.

## **7.5 RECOMMENDATIONS FOR FURTHER RESEARCH**

The recommendations for further research are based on the conclusions underpinning recommendations one and two. It is, therefore, logical to distinguish between those recommendations that are concerned with the design of CBE programmes and those that are concerned with the implementation of CBE programmes in the UNAM context.

### **7.5.1 Further studies regarding design issues**

One of the serious problems barring the change to new programme orientations in universities is the attitudinal change of top management and lecturing staff. UNAM should investigate the effective individual and organisational management of change when introducing CBE (cf. Chapter 3: Table 3.1; Section 3.3.1). The University of Namibia needs, furthermore, accurate student profiles to address the alignment of students’ mode 1 and 2 knowledge levels with programme knowledge levels and to align admission requirements and bridging programmes

with these learner characteristics (cf. Chapter 3: Table 3.1; Section 3.3.1). Since the quality of education is related to the ability of students to transfer the knowledge and skills learned to other contexts, the question of how well UNAM teacher education syllabi develop students' ability to transfer knowledge and skills to different contexts needs investigation (cf. Chapter 3: Table 3.1; Section 3.3.1.6).

### **7.5.2 Further studies regarding implementation issues**

The assessment of the competence of prospective teaching students in Namibia poses several challenges. A system where senior practising teachers are trained and accredited by UNAM to assist lecturers as mentors and assessors needs to be investigated (cf. Chapter 3: Table 3.1; Section 3.3.2.1). Another implementation study that the Faculty of Education should consider to undertake is an investigation of alternatives for restructuring the faculty that possibly move away from discipline-based structures, promote team teaching and team work, accommodate the distance and future online delivery modes, and meet in-service education needs (cf. Chapter 3: Table 3.1; Section 3.3.2.2). Moreover, if distance and online education are becoming increasingly popular in Namibia, the question that should be examined is whether CBE programmes could be effectively facilitated through these modes. How feasible would it be to teach and assess competencies in these modes of delivery? (cf. Chapter 3: Table 3.1, Step 8).

## **7.6 SUMMARY**

Change is a constant factor and since universities cannot operate in a vacuum, they need to adapt to the relevant global and national changes. Such changes involve, for instance, the definition of 'quality education' and the 'role of the university' in society. In order for UNAM to elicit ongoing government support, the programmes of the Faculty of Education must be aligned with the CBE oriented requirements of government. An understanding of the strengths and weaknesses of the design and implementation of CBE programmes is, therefore, important for UNAM.

The goal of this study was to contribute to this understanding and to the application of CBE programme design and implementation at UNAM by developing a synthesised design and

implementation framework based on the perspectives and experiences of a number of individuals and institutions from many different countries. Four aims were set and achieved in order to evaluate CBE and develop a framework for designing and implementing CBE teacher-education programmes in the Faculty of Education at UNAM.

The local case of ADEd was analysed according to an internationally synthesised framework which was further validated on a limited scale by academics. The framework was found to be comprehensive and appropriate for the UNAM context given some changes in the sequence of steps and the addition of details for some steps. This study is unique in that it is proposing the first CBE programme design and implementation framework at UNAM. The contribution of this study is timely, as Namibia has accepted CBE principles for all levels of education. Two recommendations were made, namely, that programme designers at UNAM need to apply a contextualised version of the proposed CBE generic design and implementation framework as presented in Appendix 9.

The strengths and weaknesses of CBE for teacher education have been explored in this study. It was found, amongst other things, that if the possible pitfalls are recognised and addressed via a CBE design and implementation framework, the individual, institutional and national benefits that could be gained, appear to outweigh the limitations. On this basis one could identify strongly with Killen's (s.a.:1) observation that an educational system that focuses on *quality* pays attention to the inputs to the system, what happens within the system, and the outputs from the system. It is hoped that this study will make a contribution to the inputs, processes and outputs of teacher education in Namibia.

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**APPENDIX 1:**  
**ADED BROCHURE**



**UNIVERSITY OF Namibia**  
*Advanced Diploma in Education (ADEd)*

**FACULTY OF EDUCATION**

**Advanced Diploma in Education (ADEd)**

**AIMS OF QUALIFICATION**

The overall programme is designed to initiate meaningful learning through the establishment of positive expectations which require students to:

- significantly improve teaching subject knowledge in depth (a grasp of the principles for organising facts into conceptual schemes which give coherence to otherwise disjointed bits of information) and breadth (the ability to see connections and interrelationships between various disciplines) so that they develop a cognitive perspective of the (H)IGCSE curricula framework;
- develop a theoretical and practical understanding of how Namibian children think and learn in order to provide them with strategies for meaningful learning;
- master the professional skills necessary for effective instruction;
- perform ably appropriate task management skills;
- develop specific job environment skills;
- acquire a body of specialised knowledge and research skills that will prepare them for further study at masters level;
- develop a desirable state of mind characterised by the qualities of open-mindedness, reflection and critical self-appraisal;
- develop an attitude of professionalism which is demonstrated by a commitment to actively improve both the status and practice of teaching.

#### ADMISSION REQUIREMENTS (ADM REQ)

- A recognised four year post grade 12 secondary teacher qualification, **for example**, HED sec., PGDE or equivalent qualification.
- Three years teaching experience after the completion of the professional teacher's qualification.
- A pass in an English proficiency test.
- To enrol for school subjects on a HIGCSE level, a pass (matric C symbol or HIGCSE 3 symbol) on Grade 12 in these subjects or equivalent level, and **two years** of relevant secondary teaching experience are required.
- Preference will be given to applicants currently teaching in secondary schools.

#### TAKE NOTE :

*A maximum of 50 candidates per intake will be enrolled for the **first run** of the qualification, 1998 - 1999. **Thereafter, this number will be revised.***

- ◆ *Candidates offering scarce school subjects will initially be given preference. Scarce subjects are: Mathematics, Physical Science, Computer Studies, Accounting, Biology, Indigenous Languages and English.*
- ◆ *In considering candidates for admission, aspects like region and gender will be taken into account to ensure a fair balance.*
- ◆ *In the case of an over subscription to the qualification the Faculty reserves the right to select applicants on the basis of past academic performances.*
- ◆ *Full time candidates will initially be given preference. A candidate is considered full time when s/he enrolls for all the prescribed courses per year.*
- ◆ *Prior Learning Recognition (RPL) practices can only be considered at a later stage when the course documents are available and staff experienced in presenting the modules.*
- ◆ *A candidate can **enrol only twice** for a module or part of a module. Special permission will have to be obtained from the Faculty of Education for further enrolment.*

#### PASS REQUIREMENTS

- Competency-based training is very systematic, where learning tasks or competencies are carefully selected and grouped into modules. Every competency and module is therefore important and should be mastered at a certain level. The pass requirement for theoretical components is 60% and 80% - 100% for practical work.
- To achieve this, students are evaluated on every **learning outcome** of each module on a theoretical and/or practical basis. Regular, short, non-grading tests or exercises should be used to assist learners in ascertaining their mastery levels on a continuous basis.
- Four grading marks consisting of three tests and one assignment are required per full year course, which is equivalent to three modules.
- A student is allowed **two chances** to obtain a pass (60%) per specified learning outcome/test/assignment. This means that if a student fails a test or assignment, s/he should get another chance to pass it. Only the second score will count towards promotion. The **final** pass mark is compiled by **60% of the year mark** and **40% of the exam mark**.
- Admission to examinations as well as passing of it requires 60%.
- If a student fails, that student may register for a **module or part of a module one more time only**.
- An 80% pass on average for both years qualifies for distinction.

#### **TAKE NOTE :**

- ◆ *Evaluation questions are taken directly from the syllabi outcomes.*

- ◆ *The key verbs of learning tasks indicate the required cognitive level of teaching, as well as learning of a task.*
- ◆ *Continuous evaluation plus a final examination is required for year courses.*
- ◆ *Lecturers keep an accurate Performance Record per module per student.*
- ◆ *A 65% pass on average is the minimum prerequisite for entrance to a UNAM Masters programme.*
- ◆ *There are no supplementary examinations..*
- ◆ *Examinations can be written at regional UNAM offices/centres.*
- ◆ *The proposed number of tests per year course (3) are compulsory. More assignments than the one specified, can however be requested by lecturers.*
- ◆ *No Teaching Practice is required, but students have to submit observation checklists with regards to their newly acquired presentation skills.*

#### DEVELOPMENTAL COURSES

- Applicants who fail the proficiency tests or need any type of development course to be admitted to the Advanced Diploma could in future be referred to developmental courses which would prepare them to meet the admission requirements. These courses can only be developed after specific needs have been determined through experience.

#### DURATION OF COURSE AND DELIVERY MODE OF THE FIRST INTAKE (PILOT RUN)

- To accommodate both institutional and student circumstances, the **pilot run** of the Advanced Diploma will be presented as a full-time after-hours programme over **two years**.
- The proposed format is to have 14 Saturday meetings per year and a block period of three sessions presented in Windhoek. The first block will be from 26 - 28 February 1998.
- The qualification has a total of 242 contact hours (credit hours) over two years:
- Year 1: 120 contact hours,
- Year 2: 122 contact hours.
- A 100% attendance of all sessions are a prerequisite.
- **After** the pilot run, the ADEd will be offered through **distance education as well as on a full time basis**.

#### NATURE OF THE COURSE

The curriculum design is competency-based and not subject-based. The competency-based design has as a point of departure the real-world competencies or skills of a teacher, which are then grouped and sequenced into modules per year. These modules cover four categories of skills:

- ◆ **Basic teaching skills (including subject knowledge)**
- ◆ **Job management skills**
- ◆ **Contingency management skills**
- ◆ **Job environment skills**

CURRICULUM OVERVIEW
---------------------

**YEAR 1: Full-time Saturday sessions.**

Modules	Module Title and Code	Contact Hours	Prerequisite
3	School Subject 1 HIGCSE level	39	<b>See admis req</b>
3	Learning, Teaching and Assessment	30	none
3	School Leadership and Management	30	none
2	English for Teachers	21	none

**YEAR 2: Full-time Saturday sessions.**

Modules	Module Title and Code	Contact Hours	Prerequisite
3	School Subject 2 HIGCSE level)	38	<b>See adm req</b>
2	Learning, Teaching and Assessment	18	Module 1-3
1	School Leadership and Management	9	Module 1-3
2	Professional Development	12	none
3	Educational Research	28	none
1	English for Teachers	17	Module 1 - 2

**For further information contact:  
Office of the Registrar  
University of Namibia  
P/Bag 13301  
Windhoek**



## APPENDIX 2:

### COVER LETTER FOR DESIGN ANALYSIS QUESTIONNAIRE

Faculty of Education

08 August 1997

The Permanent Secretary  
Mr. V. Ankama  
Ministry of Higher Education, Vocational Training, Science and Technology

Dear Mr. Ankama

A Working Group in the Faculty of Education at the University of Namibia has drafted the enclosed curriculum proposal for an Advanced Diploma in Education. The targeted implementation date is January 1998.

As one of the major stakeholders in education we would like you to peruse this document and make comments and suggestions wherever you think necessary. Would you kindly fill in the attached questionnaire and return it, fax or phone in your comments and suggestions to the Convenor of the Working Group, Dr. John Katzao, not later than, **August 29; 1997**. Kindly return it by courier, fax ((061) 206-3980) or phone ((061) 206-3724). If you wish to clarify anything you may phone Madelein Goagoses, Faculty of Education secretary ((061) 206-3724) who would refer you to John Katzao, Frikkie Engelbrecht; Alet Scott; Stuart Hope, Charlotte Keyter and Louise Mostert from 08:00 -13:00.

It should be pointed out that this curriculum document has not been seen or approved by the Faculty of Education Management Committee, the Faculty Board or the Senate of UNAM. This is a draft proposal from the working committee only, and it is going through a process of revision.

We greatly value your input.

Yours sincerely

.....  
John Katzao  
Convenor

P.S. Could you kindly distribute the enclosed draft curriculum document and questionnaire to officials in your Ministry.

**APPENDIX 3:**  
**DESIGN ANALYSIS QUESTIONNAIRE**



**UNIVERSITY OF NAMIBIA**

**FACULTY OF EDUCATION**

**QUESTIONNAIRE**

**ADVANCED DIPLOMA IN EDUCATION**

**INSTRUCTIONS**

1. Please copy and circulate, to other interested persons.
2. Please answer all questions.
3. Space has been provided for further comments, please use this to substantiate any points you wish to make.
4. Return it by courier or fax. Should this not be possible please contact us at tel: 206 3724 and we will make the necessary arrangements to obtain your feedback.
5. If you have further enquiries please feel free to contact Madelein Goagoses, Faculty of Education secretary ((061) 206-3724) who would refer you to John Katzao, Frikkie Engelbrecht; Alet Scott; Stuart Hope, Charlotte Keyter and Louise Mostert from 08:00 -13:00.

Indicate with an X your answer. Space is been provided for your comments.

**TITLE OF QUALIFICATION**

1.1. Is the title acceptable?

Yes	1	
No	2	

1.2. Further suggestions/comments

.....	
.....	
.....	
.....	

**2. ADMISSION REQUIREMENTS**

2.1. Are the admission requirements clear and understandable?

Yes	1	
No	2	

2.2. Are the admission requirements acceptable?

Yes	1	
No	2	

2.3. Do you agree that the language proficiency test should be one of the admission requirements?

Yes	1	
No	2	

2.4. Further suggestions/comments

.....	
.....	
.....	
.....	
.....	

**3. DEVELOPMENTAL COURSES**

3.1. Do you think there is a need for developmental courses?

Yes	1	
No	2	

3.2. Further suggestions/comments

.....	
.....	
.....	
.....	

**4. DURATION OF COURSE AND DELIVERY MODE**

4.1. Do you think the two year duration of the course is:

adequate	1	
too long	2	
too short	3	

4.2. Further suggestions/comments

.....	
.....	
.....	
.....	

4.3. Which delivery mode do you prefer for **the first intake**:

13 Saturday meetings in Windhoek	1	
10 Saturday meetings plus a three day block	2	
Weekly evening lectures in Windhoek	3	

4.4. Apart from the distance mode, which full time delivery mode do you think will be suitable **after the first intake**?

13 Saturday meetings in Windhoek	1	
10 Saturday meetings plus a three day block	2	
Weekly evening lectures in Windhoek	3	

**5. CURRICULUM OVERVIEW**

5.1. Should the programme make provision for one or two school subjects over the period of two years?

One subject	1	
Two subjects	2	

5.2. Further suggestions/comments

.....
.....
.....
.....

5.3. Should these school subjects be offered at the following levels?:

HIGCSE only	1	
IGCSE only	2	
both HIGCSE and IGCSE	3	

5.4. Further suggestions/comments

.....
.....
.....
.....

5.5. In terms of your own particular needs indicate the importance of each subject?

1 = highest

5 = lowest

5.5 a	Learning, Teaching and Assessment	1	2	3	4	5
5.5 b	School Leadership and Management	1	2	3	4	5
5.5 c	Professional Development	1	2	3	4	5
5.5 d	Educational Research	1	2	3	4	5
5.5 e	School subjects	1	2	3	4	5

5.6. Further suggestions/comments

.....
.....
.....
.....

5.7. Are there additional skills which you think should be included?

Yes	1	
No	2	

5.8. Further suggestions/comments

.....	
.....	
.....	
.....	

**6. PASS REQUIREMENTS**

6.1. Do you agree with the proposed pass requirements?

Yes	1	
No	2	

6.2. Further suggestions/comments

.....	
.....	
.....	
.....	

**7. TEACHING-LEARNING PHILOSOPHY**

7.1. Do you find the competency-based design acceptable?

Yes	1	
No	2	

7.2. Further suggestions/comments

.....	
.....	
.....	
.....	

**8. BIOGRAPHICAL INFORMATION**

8.1. Name of institution/organisation/school:

.....

8.2. Your rank/position:

.....

8.3. Gender

Male	1	
Female	2	

8.4. Educational Region:

.....

**Thank you for your time and input.**

Inquiries: All members of the Advanced Diploma Committee as indicated on the Curriculum document.

Tel: (061) 206 3724

Fax: (061) 206 3980

## APPENDIX 4:

### ADVANCED DIPLOMA : IMPLEMENTATION SCHEDULE

DATE	ACTIVITY	RESPONSIBLE
22 Oct 1997	Senate approval	
3-7 Nov 1997	Advertising of new Advanced Diploma as well as for contract teaching staff for HIGCSE subjects	Scott
30 Oct 1997	Feedback to a few major stakeholders (list them) Compile a pamphlet for students and staff	Scott, Katzao, Keyter
4 Nov 1997 8:00	Order HIGCSE schoolbooks for all students and teachers for all the subjects of the first year. (14 copies per subject) Discuss and finalise the English proficiency test	Mostert, Keyter, Engelbrecht
7 Nov 1997	Obtain/make copies of all relevant HIGCSE syllabi and file them Management committee approves interview panels and dates	Moster, Keyter Katzao
11 Nov 1997	Discuss draft module descriptors in Advanced Diploma Committee and involve thereafter individual lecturers in developing the descriptors	All Committee members
14 Nov 1997	Student applications close. Negotiate the use of the didactic laboratory and purchase equipment/media	Persendt Keyter
17-21 Nov 1997	Process student applications and inform students	Persendt & Committee members
21 Nov 1997	Closing date for application of contract HIGCSE teachers	Persendt
25-26 Nov 1997	Interviews for contract teachers	Interview panel
26 Nov 1997	Applicants write English proficiency test at regional centres	Regional Centre heads
28 Nov-1 Dec 1997	Marking of English proficiency tests	Committee members
1 Dec 1997	Inform interviewees (teachers) of the outcome of the interviews by letter and telephone	Persendt
3 Dec 1997	Finalise module descriptors	Engelbrecht, Committee members
9 Dec 1997	Finalise course outlines	Relevant lecturers
30 Jan 1998	Registration of Advanced Diploma students	Persendt
2 Feb 1998 14:15	Competency-based induction course for all staff and contract teachers involved in the Advanced Diploma	Hope, Engelbrecht
3 Feb 1998 14:15	Meeting with all relevant staff to clarify compilation of course outlines, logistical support and procedures, deadlines, names, telephone	Engelbrecht



	numbers, venues on campus. Guided tour of the campus, especially the library for contract staff. Arrange usage of library for contract staff.	Onyango
26-28 Feb 1998	3 Day block course for Advanced Diploma students	Relevant lecturers
End of March 1998	Two day workshop for ADEd lecturing staff on Distance Education material production	Distance Education Unit
June 1998	Obtain student feedback through existing UNAM questionnaires after the third Saturday meeting	Relevant lecturers
June 1998	Writing of distance material starts	Relevant lecturers
Oct 1998	Advertise for contract staff for next year	Scott
Nov 1998	Use UNAM evaluation questionnaires again to obtain feedback from students about lecturing and the programme	Engelbrecht
Jan 1999	Discuss examination results and programme improvements for this year	Faculty members

## APPENDIX 5:

### ADEd DESIGN AND IMPLEMENTATION FRAMEWORK DOCUMENT

#### A. PLANNING STEPS

- 1. Draft a broad time-schedule for the curriculum development process.**
  - ⇒ Clarify implementation date.
  - ⇒ List dates for submitting document to boards.
  - ⇒ Action schedule can be compiled. (meeting dates, times and tasks)
- 2. Conduct a needs/situation analysis.**
  - ⇒ Who (all stakeholders) should be contacted to determine their needs?
  - ⇒ Obtain and interpret relevant national statistics.
  - ⇒ Identify characteristics of the target group, e.g. qualifications, age, geographical area, knowledge and attitudes.
  - ⇒ Determine the scope of the present need and forecast the future need.
  - ⇒ Which general and specialist knowledge, skills and attitudes should be included in the qualification or job?
  - ⇒ From which source can we get curriculum information on how this training is conducted elsewhere?
- 3. Finalise the title (and code) of the qualification.**
  - ⇒ Specify certificate, diploma or degree level of training.
  - ⇒ NQA levels?
- 4. Formulate the rationale for the curriculum/qualification.**
  - ⇒ Rationale refers to the main reasons for introducing a qualification.
  - ⇒ Example:
- 5. Formulate the aims of the curriculum.**
  - ⇒ Refer to job opportunities after obtaining this qualification.
  - ⇒ After completion of this course students should be able to:
  - ⇒ Reflect on the scope of the aims:
    - \* Categories of aims: basic job skills, job management skills, job environment skills and contingency skills
    - \* Past, present, future developments, e.g., solving problems detected by teaching practice experiences
    - \* Core and electives
    - \* Employers perspective: salable knowledge, skills and attitudes. Also, the training should meet the requirements of the national teacher appraisal system
    - \* Correlate the aims with the sociological, economical, political and technological needs of the country.
- 6. Admission requirements**
  - ⇒ Analyse the characteristics of the target group (needs analysis).
  - ⇒ Determine minimum entry requirements which will enable students to complete the course, e.g., English proficiency and aptitude tests
  - ⇒ Consider what constitutes acceptable types of qualifications, in-service training and practical experience to be admitted to this course
  - ⇒ Number of students that could qualify for admission.
  - ⇒ Set a maximum total per intake.
  - ⇒ Decide on yearly or two-yearly intake.

- 7. Recognition of prior learning.**
- ⇒ Determine ways to evaluate knowledge or skills acquired outside formal educational programmes in relation to stated objectives or formal qualifications.
  - ⇒ Credits are only awarded for verifiable theory or practical work. If 70% or more of the course objectives are proven to be mastered a student needs only to master the remaining objectives to receive full credit for a course.
- 8. Determine bridging courses and procedures.**
- ⇒ Instruments for measuring prerequisite requirements.
  - ⇒ Workbooks to train for the essential level of prerequisites.
  - ⇒ What type of bridging courses?
  - ⇒ How many courses?
  - ⇒ Length of courses.
  - ⇒ Who will design and present the courses?
  - ⇒ Can materials be purchased?
  - ⇒ Does a bridging course count towards the qualification credentials
- 9. Specify the duration and delivery mode of the course.**
- ⇒ Monitor the total hours / credits required for certificate, diploma or degree level.
  - ⇒ Which delivery mode will suit the present target group best?
  - ⇒ Full time : shortest possible time schedule to complete a course. Duration for full time?
  - ⇒ Part time : combine with distance mode? Hours allowed?
- 10. Compile the curriculum.**
- ⇒ Decide on subjects / modules.
  - ⇒ Describe the curriculum for full time and part time e.g.

***Year 1***

Sem 1	Code	Subject/Module	Hours p.w.
Sem 2			

***Year 2***

Sem 1	Code	Subject/Module	Hours p.w.
Sem 2			

- ⇒ Consider future needs and stated aims.
  - ⇒ Consider content from 4 categories of competency training.
  - ⇒ Subject versus job-competency paradigm.
  - ⇒ Consider criteria for sequencing content.
- 11. Pass requirements.**
- ⇒ Decide on compilation of year marks : continuous & exam.
  - ⇒ Identify passing percentage : sub-minimum and distinction.
  - ⇒ Theory - practice ratio : 70-100 % pass for practical.
  - ⇒ Two chances for mastery of test / assignment content.
  - ⇒ Step-off points and certification.
- 12. Further study possibilities.**
- ⇒ What further qualification(s) can follow on this qualification?
  - ⇒ What prerequisites on further qualification(s) should be met?
- 13. Teaching philosophy.**
- ⇒ Clarify a learner-centred education.
  - ⇒ Clarify adult education aspects.
  - ⇒ Check correlation between philosophy ideas and practical implementation.

## B. CURRICULUM DEVELOPMENT AND IMPLEMENTATION STEPS

- 14. Compile syllabi.**
  - ⇒ Revisit rationale and aims of the course (future / 4 categories)
  - ⇒ Gather and compare syllabi to other institutions'.
  - ⇒ Prepare students for further studies.
  - ⇒ Reflect upon criteria for content selection and sequencing
  - ⇒ Describe syllabi according to headings of :
    - \* Name and code
    - \* Duration and credits
    - \* Learning outcomes (aims)
    - \* Admission requirements
    - \* Additional costs for students
    - \* Job opportunities
    - \* Learning tasks (topics)
  
- 15. Compile course outlines.**
  - ⇒ Describe course outlines by means of the following headings:
    - \* Name and code
    - \* Rationale
    - \* Pass requirements
    - \* Next review date
    - \* Learning outcomes (aims)
    - \* Learning tasks (objectives) per outcome
  
- 16. Obtain feedback from an advisory group.**
  - ⇒ List stakeholders and relevant advisors e.g. employers.
  - ⇒ Include local, national and international advisors.
  - ⇒ Consider N.Q.A qualification levels.
  
- 17. Design bridging courses and materials.**
  - ⇒ Design instruments to measure acceptable levels of knowledge and skills.
  - ⇒ Purchase instruments or materials.
  - ⇒ Clarify credit value and timetables.
  
- 18. Design a time table.**
  - ⇒ Are lectures scheduled from 8 to 5 or during the evenings?
  - ⇒ Can lectures be presented over weekend and holiday block periods?
  - ⇒ Which times will suit the target group best?
  - ⇒ Consider learning theory as well as administrative aspects.
  
- 19. Appraise required physical facilities and equipment.**
  - ⇒ Are there enough lecture rooms with required capacities?
  - ⇒ Is a sound system and audio-visual equipment available?
  - ⇒ Consider the need for accommodation facilities.
  - ⇒ Offices for staff
  - ⇒ Computers
  - ⇒ Photo copiers, etc.
  
- 20. Appraise the need and advertise for staff.**
  - ⇒ Determine who can teach what?
  - ⇒ Which lecturers prefer to teach which subjects?
  - ⇒ Which posts need to be advertised? (How, where & when.)

- 21. List and acquire teaching-learning resources.**  
⇒ Write or order textbooks.  
⇒ Purchase audio-visual media.  
⇒ Order library books and magazines.  
⇒ Purchase laboratory equipment.  
⇒ Compile course readers.
- 22. Draw up a budget.**  
⇒ Determine expenses for :  
\* facilities  
\* staff  
\* advertising  
\* resources  
\* bridging
- 23. Obtain senate approval.**  
⇒ Clarify date for submission of proposal.  
⇒ Indicate logistics of phasing in a new qualification/course and how the old course is phased out.
- 24. Advertise the course.**  
⇒ Determine how to reach the target group best and advertise especially through that medium.
- 25. Staff training.**  
⇒ Inform permanent and part time staff about the qualification as a whole.  
⇒ Train staff in the teaching paradigm and philosophy.  
⇒ Train staff in the evaluation system of staff.  
⇒ Clarify the logistical support for staff (photocopies, book shop, typing work, inquiries).  
⇒ Describe administrative duties and due dates for handing in certain documents.

## C. EVALUATION AND IMPROVEMENT OF CURRICULUM

- 26. Continuous staff and programme evaluation.**  
⇒ Make use of student feedback, self-evaluation by staff.  
⇒ Interpret pass and failure rates.  
⇒ Evaluate the programme.  
⇒ Evaluate the evaluation system used in the course.  
⇒ Use results and feedback to improve both teaching and the programme.

**Compiler : FDJ Engelbrecht**

**Date : April 1997**

## APPENDIX 6:

### STUDENT FEEDBACK QUESTIONNAIRE

(UNAM TEACHING EVALUATION FORM - 1998)

#### 1. CONTEXT INFORMATION:

DEPARTMENT: .....

FACULTY: .....

SUBJECT/MODULE (title & code) .....

ACADEMIC YEAR: ..... SEMESTER 1 or 2.....

NAME OF LECTURER .....

Present an evaluation of the lecturer's teaching of the course, using the following grading scale as a guide:

A: Excellent                      AB: Very good                      B: Good  
C: Average                      D: Poor                      E: Very poor

#### 2. MASTERY OF THE SUBJECT MATTER:

(a) How good did the lecturer's knowledge of the subject matter appear to be?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

(b) To what extent do you think the subject matter covered was up-to-date, judging from your readings in the library?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

#### 3. PRESENTATION OF THE SUBJECT MATTER:

(a) How well was the presentation of the subject matter organised ( was the lecturer systematic, clear and effective)?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

(b) To what extent did the lecturer use a variety of teaching methods and visual aids, to make the course interesting, easy to follow and rewarding?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

#### 4. CAREFULNESS AND CONSISTENCY IN ASSESSING STUDENTS WORK:

(a) How would you rank the lecturer's assessment?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

(b) To what extent did the lecturer succeed in grading the assignments and tests, and providing feedback to the class promptly?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

**5. ATTENDANCE AND PUNCTUALITY:**

(a) How would you assess the lecturer in terms of overall attendance and punctuality during the lectures and practical classes?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

**6. AVAILABILITY FOR CONSULTATION:**

(a) To what extent was the lecturer accessible? and ready to render extra help outside the classroom?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

(b) To what extent did the lecturer encourage questions and dialogue with students?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

**7. CLARITY AND REALISATION OF AIMS AND OBJECTIVES OF THE COURSE:**

(a) To what extent were clear instructions given as to what was to be covered in the course?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

(b) To what extent was the course adequately covered within the specified time?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

**8. AVAILABILITY OF SUPPLEMENTARY TEACHING MATERIALS:**

(a) How good was the lecturer in helping to ensure that the class had relevant teaching materials?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

(b) How useful were the handouts/study guides prepared by the lecturer and how effective were other reference materials recommended by the lecturer towards the understanding of the course?

A	AB	B	C	D	E	Don't know
---	----	---	---	---	---	------------

**9. RECOMMENDATIONS:**

(a) State whether you think the teaching of the course in future should continue as now.

YES		NO	
-----	--	----	--

(b) If the answer is NO, state what changes should be made, or what steps should be taken to improve the teaching of the course:

.....  
.....  
.....  
.....

**10. OTHER GENERAL COMMENTS:**

.....  
.....  
.....  
.....



APPENDIX 7:

ADEd CURRICULUM PLANNING AND IMPLEMENTATION DOCUMENT

CURRICULUM PLANNING AND  
IMPLEMENTATION  
DOCUMENT:

ADVANCED DIPLOMA  
IN EDUCATION

COMPILED BY:

*ADVANCED DIPLOMA COMMITTEE :*

*F Engelbrecht, S Hope, J Katzao, C Keyter, L Mostert, A Scott*

FOR: FACULTY OF EDUCATION  
ACADEMIC PLANNING COMMITTEE  
SENATE

JULY 1997

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# CURRICULUM DOCUMENT FOR AN ADVANCED DIPLOMA IN EDUCATION

## INTRODUCTION

According to the statistics compiled by the Ministry of Basic Education and Culture (MBEC), thousands of teachers have only a school-leaving certificate plus a three- year teaching qualification with no possibility of further studies, especially now that the former BEd (postgraduate) course was phased out at UNAM in 1996. Furthermore, curricula from Grades 1 to 12 have changed since independence, and many teachers need upgrading and retraining to teach according to the new pedagogy advocated by the MBEC.

Reports on poor (H)IGCSE results highlighted the need for:

- ◆ teachers with expert subject knowledge;
- ◆ learning-centred methods to promote meaningful learning;
- ◆ better management of classes and schools.

This Advanced Diploma in Education (AEd) will attempt to address all these issues. The learning-centred paradigm, as advocated by the MBEC, will be dealt with in the curriculum, in particular, the modules on **Learning, Teaching and Assessment**. It will also prepare students for masters studies in order to provide ongoing professional development for teachers. The Ministry of Higher Education, Vocational Training, Science and Technology (MHEVTST) intends to introduce a performance appraisal system for teachers. The AEd will enable teachers to meet these performance criteria.

In short, personal and national needs are married in this qualification. The balance between financial inputs from all stakeholders and the quality output of the training model, were carefully considered. The proposed delivery mode of the AEd, therefore, ensure that teachers do not have to take study leave and be absent from classes.

## 1. TITLE OF QUALIFICATION

Advanced Diploma in Education (AEd)

## 2. RATIONALE

An analysis of the educational requirements of Namibian teachers reveals that there is a dire need among practising teachers for some form of post appointment re-education and training to meet the demands and responsibilities now expected of them. Many teachers need to upgrade their qualifications, and improve their professional knowledge and skills in order to teach the (H)IGCSE curricula within a learner-centred paradigm more effectively.

It is imperative, therefore that the Faculty of Education institutes a postgraduate qualification which would address the following education and training needs of Namibian senior secondary serving teachers :

- 2.1 upgrade curriculum-related subject knowledge and skills, and provide appropriate teaching and learning strategies that will enable them to cope with (H)IGCSE expectations and standards;
- 2.2 develop the knowledge and expertise required for effective professional practice;

- 2.3 prepare them for new roles as educational circumstances change and additional responsibilities are expected of teachers;
- 2.4 educate and train specialist teachers;
- 2.5 enable them to continue their professional learning at masters level;
- 2.6 realise career aspirations in terms of further promotion through the provision of professional development;

### **3. AIMS OF QUALIFICATION**

The overall programme is designed to initiate meaningful learning through the establishment of positive expectations which require students to :

- 3.1 significantly improve teaching subject knowledge in depth (a grasp of the principles for organising facts into conceptual schemes which give coherence to otherwise disjointed bits of information) and breadth (the ability to see connections and interrelationships between various disciplines) so that they develop a cognitive perspective of the (H)IGCSE curricula framework;
- 3.2 develop a theoretical and practical understanding of how Namibian children think and learn in order to provide them with strategies for meaningful learning;
- 3.3 master the professional skills necessary for effective instruction;
- 3.4 perform ably appropriate task management skills;
- 3.5 develop specific job environment skills;
- 3.6 acquire a body of specialised knowledge and research skills that will prepare them for further study at masters level;
- 3.7 develop a desirable state of mind characterised by the qualities of open-mindedness, reflection and critical self-appraisal;
- 3.8 develop an attitude of professionalism which is demonstrated by a commitment to actively improve both the status and practice of teaching.

### **4. ADMISSION REQUIREMENTS**

- 4.1 A recognised four year post grade 12 secondary teacher qualification, for example, HED sec., PGDE or equivalent qualification.
- 4.2 Three years teaching experience after the completion of the professional teacher's qualification.
- 4.3 A pass in an English proficiency test.
- 4.4 To enrol for school subjects on a HIGCSE level, a pass ( matric C symbol or HIGCSE C symbol) on Grade 12 in these subjects or equivalent level, and two years of relevant secondary teaching experience are required.
- 4.5 Preference will be given to applicants currently teaching in secondary schools.

**TAKE NOTE :**

A maximum of 50 candidates per intake will be enrolled for the **first run** of the qualification, 1998 - 1999. **Thereafter, this number will be revised.**

- ◆ Candidates offering scarce school subjects will initially be given preference. Scarce subjects are: Mathematics, Physical Science, Computer Studies, Accounting, Biology, Indigenous Languages and English.
- ◆ In considering candidates for admission, aspects like region and gender will be taken into account to ensure a fair balance.
- ◆ In the case of an over subscription to the qualification the Faculty reserves the right to select applicants on the basis of past academic performances.
- ◆ Full time candidates will initially be given preference. A candidate is considered full time when s/he enrolls for all the prescribed courses per year.
- ◆ Prior Learning Recognition (RPL) practices can only be considered at a later stage when the course documents are available and staff experienced in presenting the modules. (See 5.1 - 5.4 below)
- ◆ A candidate can **enrol only twice** for a module or part of a module. Special permission will have to be obtained from the Faculty of Education for further enrolment.

## **5. RECOGNITION OF PRIOR LEARNING (RPL)**

The Recognition of Prior Learning ( RPL) will only be considered at a later stage. At that stage the following guidelines could be used:

- 5.1 Recognition of Prior Learning is intended for adult learners who are resuming their formal education. The concept of RPL is based on the belief that many adults acquire prerequisite levels of learning and skills through work experience, community work, non-formal courses, self-directed study, travel and leisure activities. RPL has the objective of evaluating adult learning and skills that were acquired outside formal educational programmes in relation to stated objectives of formal qualifications.
- 5.2 Assessment of learners' levels of knowledge and competencies can involve a review of academic documents/portfolio, proficiency tests and examinations, essays, projects, demonstrations of knowledge and skills, interviews and references. Recognition and credits are not awarded for experience, but only for verifiable learning that occurred as a result of that experience.
- 5.3 The assessment of learning experiences must be done by subject experts and experienced professionals. The assessment results can qualify a student for admission to courses or to obtain credits for courses required by a qualification. Credits can be obtained by either theory or practical experience or both. If 70% of the course objectives, theoretical and/or practical, are not mastered during the assessment, a student must enrol for the entire course. If 70% or more of the course objectives is mastered, a student needs only to master the remaining objectives/learning tasks, to receive credit for the course.
- 5.4 A fee will be payable for these assessment activities.

## **6. DEVELOPMENTAL COURSES**

- 6.1 Applicants who fail the proficiency tests or need any type of development course to be admitted to the Advanced Diploma could in future be referred to developmental courses which would prepare them to meet the admission requirements.

These courses can only be developed after specific needs have been determined through experience.

- 6.2 Developmental courses do not count towards the required qualification credits.

#### 7. DURATION OF COURSE AND DELIVERY MODE OF THE FIRST INTAKE (PILOT RUN)

- 7.1 To accommodate both institutional and student circumstances, the pilot run of the Advanced Diploma will be presented as a full-time after-hours programme over **two years**. The proposed format is to have 10 Saturday meetings per year and a block period of three sessions presented in Windhoek. The scheduling of this block period will be mutually arranged between students and lecturers.
- 7.2 The qualification has a total of 226 contact hours (credit hours) over two years: Year 1 - 112 contact hours, Year 2 - 114 contact hours.
- 7.3 **After** the pilot run, the ADEd will be offered through **distance education as well as on a full time basis**.
- 7.4 The Saturday delivery mode for the pilot run will provide equal access to the course for students outside the Windhoek area.

#### 8. NATURE OF THE COURSE

- 8.1 This qualification serves to upgrade mainly secondary teachers who meet the admission requirements.
- 8.2 This qualification is designed to meet very specific (as earlier stated) aims.
- 8.3 Candidates who complete this course can qualify for masters studies.
- 8.4 The curriculum design is competency-based and not subject-based. The competency-based design has as a point of departure the real-world competencies or skills of a teacher, which are then grouped and sequenced into modules per year. These modules cover four categories of skills:

- **Basic teaching skills (including subject knowledge)**
- **Job management skills**
- **Contingency management skills**
- **Job environment skills**

*See the categories of skills at the end of this point (8), which reflect the competency-based content of the above mentioned categories. The category of **Basic teaching skills** includes the **HIGCSE** subject knowledge.*

- 8.5 The teaching-learning methods and the pass requirements are also competency-based orientated.
- 8.6 To allow for equal access to the programme, but simultaneously deal with institutional constraints, a full-time after hours time table is proposed.
- 8.7 Module descriptors and or course outlines will be compiled to complement this document and to ensure proper implementation of the planned content.
- 8.8 The Advanced Diploma consists of 23 modules followed over two years, totalling 226 teaching hours, **including** continuous evaluation hours but **excluding** practical field work.
- 8.9 The pilot run of the programme will carry a maximum intake of 50 candidates.
- 8.10 If stakeholders accept the 13 meeting mode it implies travelling expenses for

- students outside Windhoek. These expenses will be for their own account.
- 8.11 The advanced level of the course requires the buying of overseas prescribed books which could incur in significant costs.
- 8.12 The following identified list of core skills will form the major part of the curriculum content. These skills will be categorised to form the subjects Learning, Teaching and Assessment (LTA), School Leadership and Management (SLM), and Professional Development (PD). The content of the School Subjects (SS) and Educational Research (ER) will be determined when the module descriptors are designed. The content of the School Subjects (SS) include both academic and methodology. The content of Educational Research (ER) will also prepare students for masters studies.

**A. BASIC TEACHING SKILLS**

<p><b>ORGANISING INFORMATION / RESOURCE MATERIAL</b></p> <ul style="list-style-type: none"> <li>* HIGCSE subject knowledge</li> <li>* Ability to interpret and contextualise the syllabus</li> <li>* Utilise concept mapping</li> <li>* Plan a lesson</li> <li>* Write lesson objectives</li> <li>* Know how to access a wide range of resources (compilation of a resource file and material)</li> <li>* Select teaching methods appropriate for each group and/or individuals and syllabus content</li> <li>* Know how to integrate various resources and relevant information</li> <li>* Develop materials for student use</li> <li>* Keep up-to-date in subject speciality for (H)IGCSE</li> </ul>	<p><b>LESSON PRESENTATION</b></p> <ul style="list-style-type: none"> <li>* Facilitate discussion</li> <li>* Mastery of presentation/communication skills</li> <li>* Use team-teaching methods</li> <li>* Manage a range of student behaviours</li> <li>* Apply group work techniques</li> <li>* Know how to elicit tacit knowledge</li> <li>* Teach learners to use higher order thinking skills</li> <li>* Master a range of audio visual aids</li> <li>* Identify and handle learning difficulties</li> <li>* Create a positive learning environment</li> <li>* Motivate learners with a range of backgrounds and abilities</li> <li>* Promote co-operation among learners</li> <li>* Counsel learners on personal and academic matters</li> <li>* Understand child development</li> <li>* Understand the learning process</li> </ul>
<p><b>REINFORCEMENT AND ASSESSMENT</b></p> <ul style="list-style-type: none"> <li>* Apply various methods of assessment/evaluation</li> <li>* Assisting learners in how to learn</li> <li>* Praise and criticise learning efforts</li> </ul>	

**B. JOB MANAGEMENT SKILLS**

<ul style="list-style-type: none"> <li>* Display critical reflective self-appraisal skills</li> <li>* Manage time effectively</li> <li>* Organise work effectively</li> <li>* Demonstrate reporting skills</li> <li>* Apply leadership skills</li> <li>* Staff supervision skills</li> <li>* Compile time-tables</li> <li>* Develop mentoring skills</li> <li>* Analyse learner evaluation records for significant trends</li> <li>* Devise effective and efficient administrative procedures</li> </ul>	<ul style="list-style-type: none"> <li>* Plan and organise fund raising and other community activities</li> <li>* Planning and presenting workshops and seminars</li> <li>* Manage a crisis</li> <li>* Manage discipline in the school</li> <li>* Manage motivation of staff and learners</li> <li>* Manage stress in the school</li> <li>* Manage organisational development</li> <li>* Manage meetings</li> <li>* Apply total quality management</li> <li>* Promote team building</li> </ul>
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**C. CONTINGENCY MANAGEMENT SKILLS AND JOB ENVIRONMENT SKILLS**

<p><b>PROFESSIONAL</b></p>	<p><b>PERSONAL / INTER-PERSONAL</b></p>
<ul style="list-style-type: none"> <li>* Know course accreditation requirements and procedures</li> <li>* Keep up-to date in trends in teaching and subject knowledge</li> <li>* Do research</li> <li>* Acquire computer literacy</li> <li>* Evaluate courses</li> <li>* Know the functional structures of the Namibian education system</li> <li>* Be sensitive to gender issues, multicultural issues, population education issues and environmental issues and understand their relevance to education</li> <li>* Know conditions of service</li> <li>* Know the entire curriculum and the place of your subject within it</li> <li>* Take responsibility for your work and willing to be accountable</li> <li>* Be committed to quality education</li> <li>* Be committed to a professional code of conduct</li> <li>* Determine professional goals and career paths</li> <li>* Be committed to lifelong learning and professional development</li> <li>* Develop thinking skills</li> <li>* Act according to all legislation pertaining to educational matters</li> </ul>	<ul style="list-style-type: none"> <li>* Know how to cope and adapt to change</li> <li>* Manage personal stress</li> <li>* Use self-reliance skills</li> <li>* Have conflict resolution skills</li> <li>* Have interpersonal communication skills</li> <li>* Have ability to appraise, evaluate and assess staff</li> <li>* Promote a spirit of co-operation among teachers</li> <li>* Deal with parents</li> </ul>



## 9. CURRICULUM OVERVIEW

YEAR 1: Full-time Saturday sessions.

Modules	Module Title and Code	Contact Hours	Prerequisite
3	School Subject 1 HIGCSE level (SS)	39	<b>See admission requirements</b>
3	Learning, Teaching and Assessment (LTA)	30	none
3	School Leadership and Management (SLM)	30	none
1½	English for Teachers (ET)	13	none

YEAR 2: Full-time Saturday sessions.

Modules	Module Title and Code	Contact Hours	Prerequisite
3	School Subject 2 HIGCSE level (SS)	38	<b>See admission requirements</b>
2	Learning, Teaching and Assessment (LTA)	18	Module 1-3
1	School Leadership and Management (SLM)	9	Module 1-3
2	Professional Development (PD)	12	none
3	Educational Research (ER)	28	none
1	English for Teachers (ET)	9	none

### Notes on curriculum :

- ◆ The School Subjects (SS) syllabi focus on **(H)IGCSE content** as well as **teaching methods** thereof.
- ◆ Educational Research (ER) prepares students also for masters studies.
- ◆ The competency-based approach used for designing this qualification is clearly evident in the titles and content of the modules, for example, there are no subjects like Philosophy of Education, History of Education, Sociology of Education, Educational Psychology, etc. The emphasis is entirely on professional skills and school subject knowledge development.

### 10.1 MEETING AND EVALUATION TIMETABLE (Year 1)

Time	Meeting 1	Meeting 2	Meeting 3	Meeting 4
7:45 - 9:00	Welcome and course info	Tips on assignments / tests	ET	Evaluation: LTA
9:00 - 11:00	SS	LTA	SLM	SS
11:00 - 13:00	LTA	SLM	SS	SS

14:00 - 16:00	SLM	SS	LTA	SLM
16:00 - 17:30	ET	ET	ET	LTA

Time	Meeting 5	Meeting 6	Meeting 7	Meeting 8
7:45 - 9:00	Evaluation : SLM	Evaluation : SS	Evaluation : LTA	Evaluation : SS
9:00 - 11:00	LTA	SLM	SS	SS
11:00 - 13:00	SLM	SS	SS	LTA
14:00 - 16:00	SS	SS	LTA	SLM
16:00 - 17:30	SS	LTA	SLM	ET

Time	Meeting 9	Meeting 10	Meeting 11	Meeting 12
7:45 - 9:00	Evaluation : SLM	Evaluation : LTA &Assign	Evaluation : SS &Assign **	Evaluation : SLM & Assign
9:00 - 11:00	LTA	SLM	SS	LTA
11:00 - 13:00	SLM	SS	LTA	SLM
14:00 - 16:00	SS	LTA	SLM	SS
16:00 - 17:30	ET	ET	ET	ET

Time	Meeting 13
7:45 - 9:00	Evaluation : SS
9:00 - 11:00	SLM
11:00 - 13:00	SS
14:00 - 16:00	LTA
16:00 - 17:30	C/Lecturer evaluation

Notes on final examination of year 1 :

# There will be a final examination of 2 hours in ET.

# There will be final examinations of 3 hours in each of : SS, LTA, SLM.

\*\* The word "Assign" indicates the date for handing in the specified assignment.

**10.2 MEETING AND EVALUATION TIMETABLE (Year 2)**

Time	Meeting 1	Meeting 2	Meeting 3	Meeting 4
7:45 - 9:00	Welcome and course info	ET	ET	Evaluation: SS & SLM assignment
9:00 - 11:00	SS	LTA	SLM	ER

11:00 - 13:00	LTA	SLM	ER	SS
14:00 - 16:00	SLM	ER	SS	LTA
16:00 - 17:30	ER	SS	LTA	SLM

Time	Meeting 5	Meeting 6	Meeting 7	Meeting 8
7:45 - 9:00	Evaluation : SLM	Evaluation : ER	Evaluation : LTA & Assign	Evaluation : SS
9:00 -11:00	SS	LTA	ER	ER
11:00 - 13:00	SS	ER	SS	LTA
14:00 - 16:00	LTA	SS	SS	SS
16:00 - 17:30	ER	SS	LTA	SS
Time	Meeting 9	Meeting 10	Meeting 11	Meeting 12
7:45 - 9:00	Evaluation : LTA	Evaluation : SS & Assign	Evaluation : PD	Evaluation : ER & Assign **
9:00 -11:00	SS	PD	ER	SS
11:00 - 13:00	PD	ER	SS	PD
14:00 - 16:00	ER	SS	PD	ER
16:00 - 17:30	ET	ET	ET	ET

Time	Meeting 13
7:45 - 9:00	Evaluation : PD & Assign
9:00 -11:00	PD
11:00 - 13:00	ER
14:00 - 16:00	SS
16:00 - 17:30	C/Lecturer evaluation

Notes on final examinations of year 2 :

- ◆ The SLM module is written off after completion of it. There is not further exam.
- ◆ There are, however, a 3 hour examination at the end of the year for : SS, LTA, PD & ER.
- ◆ There will be a final examination of 2 hours in ET.

◆ **Notes on timetable:**

- Training days (Saturdays) start at 7:45 and end at 17:30.
- 10 minutes refreshment breaks will normally be taken at 10:50 and 15:50.
- The **evaluation** time slots (7:45 - 9:00) will be used to test participants' level of knowledge and mastery of skills.
- The **tutoring/practical** slots on the timetable could be used for re-testing students who did not pass the first test.

- Final examinations will be scheduled in November. The examination venues will include all the UNAM centres across the country, to cut down on students' travelling and expenses.

**\*\* The word 'Assign' in the time slot of 'Evaluation' for both years, reminds students that the specified module's assignment should be handed in on this date.**

#### ◆ **Philosophy behind the timetable design:**

The length of periods is designed to allow for practical demonstrations, all types of group exercises or the use of media. In order to take into account the concentration levels of students, lecturing should at no stage take longer than 30 minutes. A ten minute break before the end of each two hour session is strongly recommended.

Adult learners benefit most from learning actively. Lecturers should therefore make use of participatory teaching-learning methods.

Learning is also more effective when adults can integrate theory and practice. Therefore time slots allocated allow for excursions and / or practical work.

Learning is more effective when participants receive immediate feedback on their learning efforts. Time slots provide for marking and discussion of non-grading worksheets and tests.

### **11. PASS REQUIREMENTS**

- 11.1 Competency-based training is very systematic, where learning tasks or competencies are carefully selected and grouped into modules. Every competency and module is therefore important and should be mastered at a certain level. The pass requirement for theoretical components is 60% and 80% - 100% for practical work.
- 11.2 To achieve this, students are evaluated on every **learning outcome** of each module on a theoretical and/or practical basis. Regular, short, non-grading tests or exercises should be used to assist learners in ascertaining their mastery levels on a continuous basis.
- 11.3 Four grading marks consisting of three tests and one assignment are required per full year course, which is equivalent to three modules.
- 11.4 A student is allowed **two chances** to obtain a pass (60%) per specified learning outcome/test/assignment. This means that if a student fails a test or assignment, s/he should get another chance to pass it. Only the second score will count towards promotion.
- 11.5 The **final** pass mark is compiled by **60% of the year mark** and **40% of the exam mark**.
- 11.6 Admission to examinations as well as passing of it requires 60%.
- 11.7 If a student fails, that student may register for a **module or part of a module one more time only**.
- 11.8 An 80% pass on average for both years qualifies for distinction.

#### **TAKE NOTE :**

- ◆ Evaluation questions are taken directly from the Course Outlines.
- ◆ The verbs of learning tasks indicate the required cognitive level of teaching, as well as learning of a task.
- ◆ Continuous evaluation plus a final examination is required for year courses.

- ◆ Lecturers keep an accurate Performance Record per module per student.
- ◆ A 65% pass on average is the minimum prerequisite for entrance to a UNAM Masters programme.
- ◆ There are no supplementary examinations (See point 11.4).
- ◆ Examinations can be written at regional UNAM offices/centres.
- ◆ The proposed number of tests per year course (3) are compulsory. More assignments than the one specified, can however be requested by lecturers.
- ◆ No Teaching Practice is required, but students have to submit observation checklists with regards to their newly acquired presentation skills.

## 12. FURTHER STUDY POSSIBILITIES

Students who pass the Advanced Diploma with an average of 65% per subject/module can qualify for admission to a UNAM Masters course.

## 13. TEACHING -LEARNING PHILOSOPHY

The teaching-learning philosophy underlying this course, is based on principles and concepts of adult education (Andragogy) and learner centred education. The competency-based approach of mastery learning fits the concepts of adult and learner centred education. The design of the course already reflects these above-mentioned principles/concepts and the teaching of the course will also adhere to these principles.

## 14. TEACHING -LEARNING RESOURCES

- 14.1 The descriptions under the heading of “Conditions and Equipment” (see Module descriptors) for each learning outcome indicate a variety of resources. These indicated teaching-learning resources should be acquired by UNAM and properly utilised by staff.
- 14.2 All participants must receive a course outline at the commencement of a module.
- 14.3 Every student fills in his/her evaluation scores on his/her course outline to reflect his/her learning progress for each module.
- 14.4 All participants should be supplied with interactive worksheets.
- 14.5 The advanced level of the course requires the purchase of overseas books, which could incur significant cost. Students have to reckon with these and the travelling expenses if they want to enrol for the course.

## 15. STAFF TRAINING

- 15.1 Lecturing staff should receive training in aspects like : presentation skills, the lecturer as facilitator, evaluation techniques, designing of learning materials relevant for distance education, competency-based ideas, adult education practices and the design and use of module descriptors, course outlines and performance records.
- 15.2 **Continuous** staff development is necessary to ensure quality teaching-learning, especially when contract staff is employed, like for the H/IGCSE school subjects.

## 16. CONTINUOUS STAFF AND PROGRAMME EVALUATION

- 16.1 It must be accepted policy that lecturing staff should make use of student

- feedback questionnaires (at least at the end of a module) to evaluate course content and presentation.
- 16.2 These feedback results should be discussed and used for improvement of the course.

**17. OVERVIEW OF LEARNING OUTCOMES**

- 17.1 The list of identified skills as included under NATURE OF THE COURSE, forms the majority of the learning outcomes for the modules: **Learning, Teaching and Assessment, School Leadership and Management and Professional Development.**
- 17.2 See the following “**overview of learning outcomes**” of courses, which indicates the syllabi content.
- 17.3 The example below from a module descriptor gives an indication of how modules will be compiled. Each module will start with the following format:

**LEARNING, TEACHING AND ASSESSMENT (LTA)  
MODULE 1 - 3**

**PURPOSE :** To enable students to understand child development, the learning process and the implications of these for preparing and facilitating lessons and evaluating teaching-learning efforts within a learner-centred paradigm.

**PREREQUISITE MODULES :** None.

**DURATION :** 30 credits / hours.

Every module has a number of learning outcomes which should be set out in the following way:

**LEARNING OUTCOME 10 :  
DEMONSTRATE HOW TO PRAISE AND CRITICISE LEARNERS**

**CONDITIONS AND EQUIPMENT :**

- ◆ Duration : 1 hour.
- ◆ Let students recall hurtful comments from their school experiences.
- ◆ Notes on goals and principles involved.
- ◆ Case study examples.

**LEARNING TASKS :**

**ASSESSMENT**

1. Name the goals of praise and criticism.	T
2. Explain the principles underlying effective praise and criticism.	T
3. Evaluate examples of praise and criticism.	P
4. Demonstrate giving praise and criticism.	P

**Assessment clarification :**

T = Theoretical testing

P = Practical testing

***OVERVIEW OF LEARNING OUTCOMES:*****COURSE TITLE** : LEARNING, TEACHING AND ASSESSMENT (LTA)**COURSE CODE** : LTA4100**PRE-REQUISITE** : None**DURATION** : 30 contact hours**STATUS** : Compulsory in the first year**AIM****To enable students to understand child development, the learning process and the implications of these for preparing lessons and facilitating learning efforts within a learner-centred paradigm practice.****CONTENT OUTLINE**

- LO 1: SUMMARISE THE DEVELOPMENT STAGES OF PRIMARY AND SECONDARY SCHOOL LEARNERS AND APPRECIATE A LEARNER-CENTRED PARADIGM.
- LO 2: DESCRIBE THE CHARACTERISTICS OF THE BRAIN AND EXPLAIN THE IMPLICATIONS THEREOF FOR LEARNING AND TEACHING.
- LO 3: ADVISE LEARNERS HOW TO STUDY EFFECTIVELY.
- LO 4: COMPARE THE LEARNER-CENTRED WITH THE TEACHER-CENTRED PARADIGM.
- LO 5: DISCUSS AIMS FOR THE NAMIBIAN EDUCATION.
- LO 6: DESCRIBE THE HIGCSE/IGCSE CURRICULA OF NAMIBIA.
- LO 7: DESCRIBE HOW TO PLAN AND PREPARE LESSONS.
- LO 8: EXPLAIN HOW TO MOTIVATE LEARNERS AND HANDLE UNDER-ACHIEVERS.
- LO 9: EXPLAIN WHAT CLASSROOM MANAGEMENT ENTAILS.
- LO 10: DEMONSTRATE MASTERY OF PRESENTATION SKILLS.

**TEACHING ARRANGEMENTS**

30 contact hours. Focus also on mastery of skills.

**ASSESSMENT**

Theoretical pass requirement for tests: 60%. Two chances per topic/module.

Admission to examinations as well as passing of it requires 60%.

Practical pass requirement: 80 to 100% left to the discretion of the lecturer.

Continuous assessment 60% an examination 40%

One three hour written paper at the end of the academic year.

***OVERVIEW OF LEARNING OUTCOMES:*****COURSE TITLE** : LEARNING, TEACHING AND ASSESSMENT**COURSE CODE** : LTA4200**PRE-REQUISITE** : LTA first year course**DURATION** : 18 contact hours**STATUS** : Compulsory in the second year

#### **AIM**

**To enable students to understand presentation skills, to reinforce and evaluate learning and to manage student behaviours/discipline problems within a learner-centred paradigm practice.**

#### **CONTENT OUTLINE**

LO 11: DEMONSTRATE MASTERY OF PRESENTATION SKILLS. (Continue)

LO 12: REINFORCE AND EVALUATE LEARNING.

LO 13: MANAGE STUDENT BEHAVIOURS / DISCIPLINE.

#### **TEACHING ARRANGEMENTS**

18 contact hours. Focus also on mastery of skills.

#### **ASSESSMENT**

Theoretical pass requirement for tests: 60% . Two chances per topic/module.

Admission to exams as well as passing of it requires 60%.

Practical pass requirement: 80 to 100% left to the discretion of the lecturer.

Continuous assessment 60% an examination 40%

One three hour written paper at the end of the academic year.

### ***OVERVIEW OF LEARNING OUTCOMES:***

**COURSE TITLE** : SCHOOL LEADERSHIP AND MANAGEMENT (SLM)

**COURSE CODE** : SLM4100

**PRE-REQUISITE** : None

**DURATION** : 30 contact hours

**STATUS** : Compulsory in the first year

#### **AIM**

**To support students to clarify their own personality, leadership and management styles, to understand the roles of the principal as well as how to implement leadership and management ideas.**

#### **CONTENT OUTLINE**

LO 1: DETERMINE YOUR PERSONALITY PROFILE AND THE IMPLICATIONS THEREOF FOR TEACHING.

LO 2: DETERMINE YOUR LEADERSHIP PROFILE AND EXPLAIN THE ROLE OF THE PRINCIPAL AS A LEADER.

LO 3: DETERMINE YOUR MANAGEMENT PROFILE AND EXPLAIN THE ROLE OF THE PRINCIPAL AS A MANAGER.

LO 4: DESCRIBE WHAT THE 4 BASIC MANAGEMENT FUNCTIONS (POLC) ENTAIL AND APPLY IT TO THE SCHOOL CONTEXT.

LO 5: DESCRIBE HOW TO MANAGE THE ORGANISATIONAL DEVELOPMENT OF THE SCHOOL.

LO 6: APPLY THE CONCEPT OF 'TOTAL QUALITY MANAGEMENT' TO THE SCHOOL .

LO 7: EXPLAIN HOW TO MOTIVATE STAFF AND BUILD A TEAM SPIRIT.

LO 8: EXPLAIN THE THEORY AND PRACTICE OF GIVING STAFF RECOGNITION AND REWARDS.



- LO 9: EXPLAIN THE IMPORTANCE OF STAFF DEVELOPMENT AND EMPOWERMENT.
- LO 10: DISCUSS WAYS OF INVOLVING PARENTS AS PARTNERS IN SCHOOL ACTIVITIES.
- LO 11: EXPLAIN HOW THE PRINCIPAL CAN HANDLE THE PERFORMANCE PROBLEMS OF STAFF MEMBERS.
- LO 12: DESCRIBE HOW TO CONDUCT A DISCIPLINARY INTERVIEW.
- LO 13: DESCRIBE HOW TO MANAGE A CRISIS.

**TEACHING ARRANGEMENTS**

30 contact hours. Focus also on the mastery of skills.

**ASSESSMENT**

Theoretical pass requirement for tests: 60%. Two chances per module.  
 Admission to examinations as well as passing of it requires 60%.  
 Practical pass requirement: 80 to 100% left to the discretion of the lecturer.  
 Continuous assessment contributes 60% and the exam 40% towards the final mark.  
 One three hour written paper at the end of the academic year.

***OVERVIEW OF LEARNING OUTCOMES:***

**COURSE TITLE** : SCHOOL LEADERSHIP AND MANAGEMENT (SLM)  
**COURSE CODE** : SLM4212  
**PRE-REQUISITE** : None  
**DURATION** : 9 contact hours  
**STATUS** : Compulsory in the second year

**AIM**

**To support students to understand and appreciate school management functions, like managing meetings, organisational stress, discipline and time as well as how to compile objective- based reports.**

**CONTENT OUTLINE**

- LO 14: MANAGE AND PARTICIPATE IN MEETINGS.
- LO 15: MANAGE THE ORGANISATIONAL STRESS.
- LO 16: MANAGE DISCIPLINE IN THE SCHOOL.
- LO 17: MANAGE TIME IN THE SCHOOL.
- LO 18: COMPILE YEAR AND OTHER REPORTS.

**TEACHING ARRANGEMENTS**

8 contact hours. Focus on the mastery of skills as well.

**ASSESSMENT**

This module is written off as indicated on the normal time table, directly after completion of it.  
 Theoretical pass requirement for tests: 60%. Two chances per module.  
 Admission to examinations as well as passing of it requires 60%.  
 Practical pass requirement: 80 to 100% left to the discretion of the lecturer.  
 The final mark is compiled from an assignment and test mark. The assignment mark contributes 60% towards the final mark and the test 40%.

**OVERVIEW OF LEARNING OUTCOMES :**

**COURSE TITLE** : PROFESSIONAL DEVELOPMENT (PD)  
**COURSE CODE** : PDE4223  
**PRE-REQUISITE** : None  
**DURATION** : 12 contact hours  
**STATUS** : Compulsory in the second year of the AEd

**AIM**

**To support students to understand the different aspects related to their conditions of service and to acquire lifelong professional attitudes as well as personal and professional workplace skills.**

**CONTENT OUTLINE**

- LO 1: EXPLAIN THE IMPORTANCE OF LIFELONG PROFESSIONAL DEVELOPMENT .
- LO 2: DESCRIBE DIFFERENT ASPECTS RELATED TO THE NAMIBIAN TEACHERS' CONDITIONS OF SERVICE..
- LO 3: DEMONSTRATE HOW TO MANAGE PERSONAL STRESS..
- LO 4: DESCRIBE HOW TO MANAGE CONFLICTS WITH COLLEAGUES AND PARENTS..
- LO 5: DETERMINE YOUR COMMUNICATION STYLE AND DISCUSS EFFECTIVE COMMUNICATION IN THE ORGANISATION.
- LO 6: ASSESS YOUR COURSE CONTENT AND PRESENTATION SKILLS.

**TEACHING ARRANGEMENTS**

12 contact hours. Focus also on mastery of skills.

**ASSESSMENT**

Theoretical pass requirement for tests: 60%. Two chances per topic/module.  
Admission to examinations as well as passing of it requires 60%.  
Practical pass requirement: 80 to 100% left to the discretion of the lecturer.  
Continuous assessment 60% and examination 40%  
One three hour written paper at the end of the academic year.

**OVERVIEW OF LEARNING OUTCOMES:**

**COURSE TITLE** : EDUCATIONAL RESEARCH (ER)  
**COURSE CODE** : ERE4200  
**PRE-REQUISITE** : None  
**DURATION** : 28 contact hours  
**STATUS** : Compulsory in the second year

**AIM**

**To support students to understand the theory of research, to do research in the school context, to meet HIGCSE course work requirements and to prepare them for master studies.**

**CONTENT OUTLINE**

- LO 1: EXPLAIN SOME PHILOSOPHICAL ASPECTS OF RESEARCH.
- LO 2: LIST THE AIMS OF RESEARCH.
- LO 3: DESCRIBE THE STEPS OF A RESEARCH DESIGN.
- LO 4: GIVE AN OVERVIEW OF THE PRACTICAL IMPLEMENTATION STEPS IN THE

RESEARCH PROCESS.

- LO 5: MENTION AND DESCRIBE DIFFERENT TYPES OF RESEARCH ACCORDING TO RESEARCH METHODS AND PURPOSE PERSPECTIVES.
- LO 6: COMPARE THE PRACTICAL IMPLEMENTATION STEPS OF A SURVEY WITH THOSE OF AN EXPERIMENTAL RESEARCH DESIGN .
- LO 7: EXPLAIN THE TYPES OF RESEARCH SUITABLE FOR THE “SCHOOL AND CLASSROOM” CONTEXT.
- LO 8: EXPLAIN HOW TO DESIGN AND IMPLEMENT DATA GATHERING INSTRUMENTS LIKE QUESTIONNAIRES, INTERVIEW AND OBSERVATION SCHEDULES.
- LO 9: SUMMARISE, DISPLAY, CALCULATE AND INTERPRET RESEARCH INFORMATION.
- LO 10: COMPARE THE DEGREE OF DIFFICULTY AND THE DISCRIMINATION VALUE OF ASSESSMENT ITEMS.
- LO 11: DESIGN AN ACTION RESEARCH PROJECT, WRITE A PROPOSAL FOR IT AND EXECUTE IT.
- LO 12: DESCRIBE TIPS AND TECHNIQUES RELEVANT FOR MASTERS STUDIES.

**TEACHING ARRANGEMENTS**

28 contact hours. Focus also on mastery of research skills.

**ASSESSMENT**

Theoretical pass requirement for tests: 60% Two chances per module.

Admission to examinations as well as passing of it requires 60%.

Practical pass requirement: 80 to 100%, left to the discretion of lecturer.

Continuous assessment contributes 60% and the exam 40% towards the final mark.

One three hour written paper at the end of the academic year.

***OVERVIEW OF LEARNING OUTCOMES:***

**COURSE TITLE : HIGCSE SCHOOL SUBJECT 1 AND 2**

**COURSE CODE :** See attached examples

**PRE-REQUISITE :** A Grade 12 C- symbol (matric or HIGCSE) and two years relevant secondary teaching experience

**DURATION :** 39 contact hours per subject

**STATUS :** Two school subjects on HIGCSE level compulsory

**AIM**

**To support students to master the Grade 11 and 12 HIGCSE subject content as well as the methodology for teaching it to senior secondary learners.**

**CONTENT OUTLINE**

- LO 1: DESCRIBE THE RATIONALE AND AIMS OF YOUR SUBJECT.
- LO 2: DESCRIBE THE MBEC’S EVALUATION REQUIREMENTS FOR YOUR SUBJECT.
- LO 3: COMPILE A LEARNER’S PERFORMANCE RECORD FROM A SYLLABUS.
- LO 4: EXPLAIN THE HIGCSE SYLLABUS CONTENT AS WELL AS THE METHODS FOR TEACHING THE DIFFERENT TOPICS OF THE SYLLABUS.

- TEACHERS DO TEACHING PRACTICE IN BOTH YEARS, IN THE SENSE THAT THEY ARE EXPECTED TO HAND IN LEARNER AND COLLEAGUE OBSERVATION CHECKLISTS WHICH ASSESS THEIR IMPLEMENTATION OF NEWLY ACQUIRED SKILLS IN BOTH SUBJECTS.

#### **TEACHING ARRANGEMENTS**

39 contact hours per subject. Focus on both the teaching methods and the subject content.

#### **ASSESSMENT**

Theoretical pass requirement for tests: 60% Two chances per module.

Admission to examinations as well as passing of it requires 60%.

Practical pass requirement: 80 to 100%, left to the discretion of lecturer.

Continuous assessment contributes 60% and the exam 40% towards the final mark.

One three hour written paper at the end of the academic year.

#### ***OVERVIEW OF LEARNING OUTCOMES:***

**COURSE TITLE :** HIGCSE SCHOOL SUBJECT: ACCOUNTING

**COURSE CODE :** SSA4100

**PRE-REQUISITE :** A Grade 12 C- symbol (matric or HIGCSE) and two years relevant secondary teaching experience

**DURATION :** 39 contact hours

**STATUS :** Elective in the second year

#### **AIM**

**To support students to master the Grade 11 and 12 HIGCSE subject content as well as the methodology for teaching it to senior secondary learners.**

#### **CONTENT OUTLINE**

- LO 1: DESCRIBE THE RATIONALE AND AIMS OF ACCOUNTING.
- LO 2: DESCRIBE THE MBEC'S EVALUATION REQUIREMENTS FOR ACCOUNTING.
- LO 3: COMPILE A LEARNER'S PERFORMANCE RECORD FROM THE SYLLABUS.
- LO 4: EXPLAIN THE HIGCSE SYLLABUS CONTENT AS WELL AS THE METHODS FOR TEACHING THE DIFFERENT TOPICS OF THE SYLLABUS.
- LO 5: THE PURPOSE AND FUNCTIONS OF ACCOUNTING
- LO 6: ACCOUNTING CONCEPTS AND CONVENTIONS.
- LO7: TYPES OF BUSINESS
- LO 8: SOURCES AND RECORDING OF DATA.
- LO 9: VERIFICATION OF ACCOUNTING RECORDS.
- LO 10: INCOME MEASUREMENT
- LO 11: ANALYSIS AND INTERPRETATION.
- LO 12: MANAGERIAL ACCOUNTING

- TEACHERS DO TEACHING PRACTICE, IN THE SENSE THAT THEY ARE EXPECTED TO HAND IN LEARNER AND COLLEAGUE OBSERVATION CHECKLISTS WHICH ASSESS THEIR IMPLEMENTATION OF NEWLY ACQUIRED SKILLS IN ACCOUNTING.

#### **TEACHING ARRANGEMENTS**

39 contact hours. Focus on both the teaching methods and the subject content.

## ASSESSMENT

Theoretical pass requirement for tests: 60%. Two chances per module.

Admission to examinations as well as passing of it requires 60%.

Practical pass requirement: 80 to 100%, left to the discretion of lecturer.

Continuous assessment contributes 60% and the exam 40% towards the final mark.

One three hour written paper at the end of the academic year.

## OVERVIEW OF LEARNING OUTCOMES:

**COURSE TITLE** : HIGCSE SCHOOL SUBJECT: PHYSICAL SCIENCE

**COURSE CODE** : SSP4100

**PRE-REQUISITE** : A Grade 12 C- symbol (matric or HIGCSE) and  
two years relevant secondary teaching experience

**DURATION** : 38 contact hours

**STATUS** : Elective in the second year

## AIM

**To support students to master the Grade 11 and 12 HIGCSE subject content as well as the methodology for teaching it to senior secondary learners.**

## CONTENT OUTLINE

LO 1: DESCRIBE THE RATIONALE AND AIMS OF PHYSICAL SCIENCE.

LO 2: DESCRIBE THE MBEC'S EVALUATION REQUIREMENTS FOR PHYSICAL SCIENCE.

LO 3: COMPILE A LEARNER'S PERFORMANCE RECORD FROM THE SYLLABUS.

LO 4: EXPLAIN THE HIGCSE SYLLABUS CONTENT AS WELL AS THE METHODS FOR TEACHING THE DIFFERENT TOPICS OF THE SYLLABUS.

### A: PHYSICS SECTION:

LO 5: GENERAL PHYSICS

LO 6: THERMAL PHYSICS

LO 7: OSCILLATIONS

LO 8: PROPERTIES OF WAVES, INCLUDING LIGHT AND SOUND WAVES

LO 9: ELECTRICITY AND MAGNETISM

LO 10: NUCLEAR PHYSICS

LO 11: EARTH AND SPACE

### B: CHEMISTRY SECTION:

LO 12: THE PARTICULATE NATURE OF MATTER

LO 13: EXPERIMENTAL TECHNIQUES

LO 14: ATOMS, ELEMENTS AND COMPOUNDS

LO 15: STOICHIOMETRY

LO 16: CHEMICAL REACTIONS

LO 17: ACIDS, BASES AND SALTS

LO 18: THE PERIODIC TABLE

LO 19: METALS

LO 20: AIR AND WATER

LO 21: LIME AND LIMESTONE

LO 22: ORGANIC CHEMISTRY

LO 23: ENVIRONMENTAL CHEMISTRY

- TEACHERS DO TEACHING PRACTICE, IN THE SENSE THAT THEY ARE EXPECTED TO HAND IN LEARNER AND COLLEAGUE OBSERVATION CHECKLISTS WHICH ASSESS THEIR IMPLEMENTATION OF NEWLY ACQUIRED SKILLS IN PHYSICAL SCIENCE.

#### **TEACHING ARRANGEMENTS**

38 contact hours. Focus on both the teaching methods and the subject content.

#### **ASSESSMENT**

Theoretical pass requirement for tests: 60%. Two chances per module.

Admission to examinations as well as passing of it requires 60%.

Practical pass requirement: 80 to 100%, left to the discretion of lecturer.

Continuous assessment contributes 60% and the exam 40% towards the final mark.

One three hour written paper at the end of the academic year.

#### ***OVERVIEW OF LEARNING OUTCOMES:***

**COURSE TITLE :** HIGCSE SCHOOL SUBJECT: GEOGRAPHY

**COURSE CODE :** SSG4100

**PRE-REQUISITE :** A Grade 12 C- symbol (matric or HIGCSE) and two years relevant secondary teaching experience

**DURATION :** 39 contact hours

**STATUS :** Elective in the first year

#### **AIM**

**To support students to master the Grade 11 and 12 HIGCSE subject content as well as the methodology for teaching it to senior secondary learners.**

#### **CONTENT OUTLINE**

LO 1: DESCRIBE THE RATIONALE AND AIMS OF GEOGRAPHY.

LO 2: DESCRIBE THE MBEC'S EVALUATION REQUIREMENTS FOR GEOGRAPHY.

LO 3: COMPILE A LEARNER'S PERFORMANCE RECORD FROM THE SYLLABUS.

LO 4: EXPLAIN THE HIGCSE SYLLABUS CONTENT AS WELL AS THE METHODS FOR TEACHING THE DIFFERENT TOPICS OF THE SYLLABUS.

LO 5: POPULATION AND SETTLEMENT

LO 6: THE NATURAL ENVIRONMENT.

LO7: ECONOMIC DEVELOPMENT AND THE USE OF RESOURCES.

LO 8: THE NATURAL ENVIRONMENT AND HUMAN ACTIVITIES.

- TEACHERS DO TEACHING PRACTICE, IN THE SENSE THAT THEY ARE EXPECTED TO HAND IN LEARNER AND COLLEAGUE OBSERVATION CHECKLISTS WHICH ASSESS THEIR IMPLEMENTATION OF NEWLY ACQUIRED SKILLS IN GEOGRAPHY.

#### **TEACHING ARRANGEMENTS**

39 contact hours. Focus on both the teaching methods and content.

## ASSESSMENT

Theoretical pass requirement for tests: 60%. Two chances per module.  
Admission to examinations as well as passing of it requires 60%.  
Practical pass requirement: 80 to 100%, left to the discretion of lecturer.  
Final mark: continuous assessment 60% and the exam 40% .  
One three hour written paper at the end of the academic year.

### *OVERVIEW OF LEARNING OUTCOMES:*

**COURSE TITLE** : HIGCSE SCHOOL SUBJECT: BIOLOGY

**COURSE CODE** : SSB4100

**PRE-REQUISITE** : A Grade 12 C- symbol (matric or HIGCSE) and  
two years relevant secondary teaching experience

**DURATION** : 38 contact hours

**STATUS** : Elective in the first and second year

## AIM

**To support students to master the Grade 11 and 12 HIGCSE subject content as well as the methodology for teaching it to senior secondary learners.**

## CONTENT OUTLINE

- LO 1: DESCRIBE THE RATIONALE AND AIMS OF BIOLOGY.
- LO 2: DESCRIBE THE MBEC'S EVALUATION REQUIREMENTS FOR BIOLOGY.
- LO 3: COMPILE A LEARNER'S PERFORMANCE RECORD FROM THE SYLLABUS.
- LO 4: EXPLAIN THE HIGCSE SYLLABUS CONTENT AS WELL AS THE METHODS FOR TEACHING THE DIFFERENT TOPICS OF THE SYLLABUS.

### *SECTION 1: CHARACTERISTICS AND CLASSIFICATIONS OF LIVING ORGANISMS*

- LO 5: CHARACTERISTICS OF LIVING ORGANISMS.
- LO 6: CLASSIFICATIONS OF LIVING ORGANISMS.
- LO 7: DIVERSITY OF ORGANISMS
- LO 8: SIMPLE KEYS

### *SECTION 2: ORGANISATION AND MAINTENANCE OF THE ORGANISM*

- LO 9: CELL STRUCTURE AND ORGANISATION
- LO 10: LEVELS OF ORGANISATION
- LO 11: DIFFUSION
- LO 12: OSMOSIS
- LO 13: ENZYMES
- LO 14: NUTRITION
- LO15: TRANSPORTATION
- LO 16: RESPIRATION
- LO 17: EXCRETION AND HOMEOSTASIS IN HUMANS
- LO 19: COORDINATION AND RESPONSE

**SECTION 3: DEVELOPMENT OF THE ORGANISM AND THE CONTINUITY OF LIFE**

LO 20: REPRODUCTION

LO 21: GROWTH AND DEVELOPMENT

LO 22: INHERITANCE

**SECTION 4: RELATIONSHIPS OF ORGANISMS WITH ONE ANOTHER AND WITH THEIR ENVIRONMENT**

LO 23: ENERGY FLOW

LO 24: FOOD CHAINS AND FOOD WEBS

LO 25: NUTRIENT CYCLES

LO 26: POPULATION SIZE

LO 27: HUMAN INFLUENCES ON THE ECOSYSTEM

- TEACHERS DO TEACHING PRACTICE, IN THE SENSE THAT THEY ARE EXPECTED TO HAND IN LEARNER AND COLLEAGUE OBSERVATION CHECKLISTS WHICH ASSESS THEIR IMPLEMENTATION OF NEWLY ACQUIRED SKILLS IN BIOLOGY.

**TEACHING ARRANGEMENTS**

38 contact hours. Focus on both the teaching methods and the subject content.

**ASSESSMENT**

Theoretical pass requirement for tests: 60%. Two chances per module.

Admission to examinations as well as passing of it requires 60%.

Practical pass requirement: 80 to 100%, left to the discretion of lecturer.

Continuous assessment contributes 60% and the exam 40% towards the final mark.

One three hour written paper at the end of the academic year.



## APPENDIX 8:

### STAFF INDUCTION DOCUMENT

#### ***ADVANCED DIPLOMA INFORMATION FOR CONTRACT STAFF***

##### **1 WELCOME**

We are so happy that you share our interest to improve the quality of the Namibian education via quality teacher qualifications. Welcome to the team who is teaching the Advanced Diploma in Education. If there is anything the team members can do to support you, do not hesitate to express your needs. (See the list of names and telephone numbers later on.)

##### **2 ADVANCED DIPLOMA FEATURES**

This is a new qualification with its pilot run in 1998 -1999. The features will be conveyed to you orally. You will however notice that students can proceed with a Masters after completion of this programme, the passing requirements are 60% and the module descriptors are competency-based. Feedback on this qualification from many stakeholders in Namibia, was extremely positive.

##### **3 CLARIFICATION OF DUTIES**

Your main duties (as contract staff) are to teach teachers the HIGCSE content as well as the appropriate methodology. You are expected to be well prepared, to follow adult education guidelines, adhere to the passing requirements, set and mark papers and support students learning. Your payment of N\$ 150 per contact hour includes performing of all the said duties. You will receive a Course File in which all the course and teaching-learning documents should be kept, e.g., module descriptor, time table, tests, marks, student feedback forms, handouts, and so forth. This file should be handed in at the end of the academic year to the implementation co-ordinator, Frikkie Engelbrecht.

##### **4 ADULT EDUCATION GUIDELINES**

Some ideas of a Teaching Philosophy for adults will be discussed. It is worthwhile to remember, that the teachers who will be our students, are adults with teaching experience which could be tapped and used as a point of departure to explain theories and principles. Attend to their learning needs rather than to follow your prepared lesson rigidly. Case studies and discussions are preferable to lecturing as a teaching-learning method. Adults prefer a non-formal, democratic atmosphere. They are also seeking meaning in what they have to study, and would like to know the WHY of things and ideas.

##### **5 TIME TABLE**

Please check whether the scheduled Saturday meetings are realistic and acceptable to you. If circumstances arise which make it impossible for you to keep your schedule, make arrangements with a colleague to switch slots or Saturdays. Contact the implementation co-ordinator only if you cannot solve your time table problem. Take especially note of the 3-day block session in February and make arrangements to be

available on your slots. Course outlines and possible notes and overhead transparencies should be ready by then.

## **6 MODULE DESCRIPTORS AND TEXT BOOKS**

Contract staff can buy their own copy of text books or borrow a set from the Faculty and return it by the end of the course. Students will have to buy the necessary books and HIGCSE syllabi. Ms Keyter is the contact person for text books and syllabi. We hope to have all the books available before the first lectures on the 26 of February.

## **7 VENUE(S)**

We are looking for a room with air conditioning, because students have a full day of concentration and thinking and need all the support we can provide. The main lecture room will be X 233. Other rooms for the different school subjects will be as follows: **Biology laboratory, Geography X 250, Business Studies X127, English 129.** Laboratory facilities will be finalised soon.

## **8 LIBRARY AND CAMPUS**

Hours: Mo - Fri 8:00 - 22:00. Sat 15:00 - 22:00. Sun 14:00 - 22:00  
The contact person in the library is Siegfriede Karstens, level two of the library and telephone 206 - 3055. You will need two passport photos to get a library card from Siegfriede. You will be taken on a tour of the library and the campus.

## **9 PHOTOCOPIES AND TYPING WORK**

There will be photo copy key available at the dean's secretary, room X 137. She will however not be around on Saturdays, so your notes should be copied by yourself during weekday afternoons. Paper for tests and overhead transparencies are also available at the secretary, Madelein Goagoses, tel 206-3724. Typing work can be done for you by the Faculty typist, Miriam Kahuika, tel 206-3917. She is sitting in the office next to Madelein, X136. To prevent disappointment, Miriam should receive the typing work well in advance.

## **10 STUDENT FEEDBACK**

You will receive student feedback forms which should be administered in the May session. You analyse the results and discuss it with the students at the next meeting. It is the lecturers choice to file these results or to throw it away. A second round of feedback is taking place at the end of the course. These forms should be filed in the Course File.

## **11 EVALUATION DATES**

Semester marks are to be handed in by 24 June. Year marks are to be submitted by 28 October. The end of the year examination papers are to be submitted by 4 September, complete with memorandum and course outline.

## **12 DISTANCE EDUCATION MATERIALS**

It is preferable that contract staff who teaches the Advanced Diploma Courses, also be involved in writing materials for their courses in the distance education mode. They will be remunerated extra for doing so. A workshop to train staff to write these kind of materials is scheduled for the end of March 1998. Distance material for the first year of the programme, is to be ready for distribution by December 1999.

**13 MONEY CLAIM FORMS**

These forms are available at Madelein. Lecturers can claim their money after each session or after a few sessions. Completed claim forms are to be handed in at Frikkie Engelbrecht. Contract staff paid on an hourly basis do not qualify for other benefits like housing, medical or reduced study fees at UNAM.

**WE HOPE YOU ENJOY THIS NEW VENTURE!**

**Frikkie Engelbrecht  
Implementation Co-ordinator**

**APPENDIX 9:**  
**A DESIGN AND IMPLEMENTATION FRAMEWORK FOR**  
**CBE PROGRAMMES**

**RESEARCH OBJECTIVE: The appropriateness of the following proposed competency-based (CBE) design and implementation framework for a 4-year B.Ed initial teacher education degree.**

Please comment on the appropriateness of the following competency-based (CBE) design and implementation framework steps, sequence thereof and activities / elements per step.

**CBE DESIGN STEPS:**

**1. Managing the change to a new educational philosophy**

- The faculty selects a task force and programme co-ordinator
- The task force examines the philosophy and characteristics of CBE
- Analyse examples of CBE programmes and research findings
- Obtain a CBE programme design and implementation framework
- Meetings with internal stakeholders about CBE: top and faculty management, lecturers, students, administrative staff
- Address fears and conflicting perspectives such as goals of higher education, academic freedom and accountability, learning theories and new epistemologies, responsiveness, graduateness, citizenship and lifelong learning
- Create CBE guideline documents regarding aspects such as the philosophy and characteristics of CBE, student support, setting performance tests, module descriptor templates, assessment and assessment records
- Identify actions to manage individual change, e.g., how the new system improve on the current one
- Identify actions to manage institutional change, e.g., do not polarise supportive and opposing views, reflect on the purposes of the African university, obtain the support of departmental heads and dean, conduct strategic planning, involve some external stakeholders, discuss the scientism perspective, allow adequate time for meetings, analyse quality (teacher) education, select suitable persons to conduct discussions

**2. Drafting a programme development timetable and action plan**

- The task force works backwards from the intended implementation date and draft a timetable to meet deadlines
- Compile the timetable and action plans according to both *design* and *implementation* steps

### 3. Conducting a situation analysis

- *Analyse international level factors:*  
Consider effects of globalisation; define quality education; reflect on responsiveness versus graduateness; identify massification implications; discuss higher education concerns, goals and future trends; consider the role of the African university; reflect on a model underpinning occupational competence roles analysis and whether it blends higher education, occupational and general education goals; take note of mode 1 and 2 forms of knowledge production; cover global academic and indigenous knowledge; include generic and other competencies; consider disciplinarity, inter- and transdisciplinarity; define lifelong learning development; reflect on academic freedom and public accountability; describe CBE limitations and benefits; consult CBE research findings; examine constructivist knowledge production
- *Analyse national level factors:*  
Consult relevant national education statistics to determine the need for particular teachers and qualifications; clarify the role of the National Qualification Authority (NQA); consult NQA teaching profession standards; observe national higher education planning and directives, e.g., Namibian Vision 2030; analyse the requirements for teacher licenses and performance appraisals; conduct an occupational analysis with stakeholder input, e.g., DACUM workshops; create a competency profile (indicating priorities) for entry-level / expert professionals; consider implications of multicultural democracy; analyse the profile of the targeted student body, e.g., language skills, values, learning styles, subject knowledge levels and motivation; relate equity and bridging courses; define national and global citizenship; consider requirements to deliver the programme via distance and online education; monitor possible duplication of programmes in other local institutions
- *Analyse institutional level factors:*  
Conduct a strategic planning for the faculty; reflect on the contribution of the humanities; calculate implications for workloads and workload policies; reflect on the financial autonomy and financial management of the faculty; determine the need for bridging (pre-entry) courses and a RPL system; appraise the adequacy of facilities; reflect on ways to support students; reflect on ways to develop and support staff; revisit the registration management; identify internal and external stakeholders to be involved; decide on methods to gather data from stakeholders, e.g., nominal group technique, search conferences, functional analysis, interviews, critical incident technique, surveys, delphi, performance assessment observation, questionnaires, advisory groups and the DACUM; analyse the degree of accreditation of schooling with university system; consider alternative departmental structures; design ways to ensure quality assurance; consider strategies for staff and programme development
- *Analyse module level factors:*  
Consider which modules apply discipline, inter- and trans disciplinary structures; identify how modules incorporate generic competencies; monitor possible duplication of modules within the institution; standardize the length of modules; revisit the organisation of workplace training logistics; reflect on availability of appropriate workplace training sites

#### **4. Finalising the title, level, duration and code of the qualification**

- Determine what type of qualification would address the identified needs
- Observe NQA regulations regarding qualification levels and duration
- Specify the NQA and institutional levels and codes

#### **5. Formulating the rationale**

- The rationale especially addresses the identified national needs and therefore influence the exit outcomes
- Address a range of occupational competence roles such as standard occupational roles, management roles, job environment roles and *general education roles*
- Provide for teacher attrition via related career options
- Provide for accreditation for further studies
- The rationale relates to the mission of the faculty
- Avoid duplication of other programme purposes

#### **6. Formulating the exit outcomes of the programme**

- Distinguish between exit and enabling outcomes: exit outcomes define roles and specify mainly competencies, not knowledge and traits
- Observe a model for identifying competence roles: the spectrum of outcomes covers standard occupational roles, management roles, job environment roles and extend to general education and general employment roles that would include personal and interpersonal development, values and attitudes, citizenship, generic employability skills, local and international knowledge and skills, community development agent, emotional intelligence...
- Outcomes address future oriented needs as well
- Outcomes address related career path requirements
- Outcomes address preparation for further education
- Observe the local NQA minimum standards and requirements and compare it to the DACUM results of the situation analysis
- Consult international standards and exercise academic freedom to add outcomes for diversity or depth
- The formulation of exit outcomes incorporate verbs expressing observable behaviour rather than conditions and assessment criteria
- Be aware of the important role of verbs in outcomes

#### **7. Determining the admission requirements**

- A team revisit traditional admission criteria and reflect on the purpose thereof
- Consider the articulation between the schooling and higher education system
- Consider the targeted learner profile compiled during step three / situation analysis
- Specify academic and occupational pre-requisites such as physical traits or abilities, previously learned skills, previously learned knowledge and previously acquired attitudes in terms of quality assurance
- Consider the need for and implementation consequences of aptitude, language proficiency or other tests
- Determine the permissible maximum load in the case of *employed* students

- Bear in mind equal access policies, including gender and disadvantaged equity
- Consider admission procedures that might accommodate multiple entry points in terms of time, locality and mode of registration.
- Address planned maximum total of students and rules in case of over subscription.
- A team reflect on RPL models and develop the prior learning recognition system
- Consider the need for and nature of possible bridging courses related to admission criteria

## **8. Selecting the delivery mode**

- Decide whether the programme will be offered on a full time, part time, a distance, an online or a combination of these modes

## **9. Compiling module descriptors and course outlines**

- Monitor the horizontal (scope) and vertical (depth) dimension of the outcomes of step 6 above
- Use a matrix to monitor the incorporation of competencies in various modules
- Design a module descriptor template which includes aspects such as module title, code, admission / pre-requisites, total hours / contact hours per week, credit value, NQA level, lecturer, course description, exit outcomes, learning outcomes, course assessment, prescribed learning material, course requirements and expectations, equipment to be bought, additional costs, next revision date.
- Module descriptors include comprehensive, coherent knowledge and traits and attitudes to develop previously specified outcomes
- Indigenous knowledge complements universal knowledge
- Be aware that the levels of knowledge, traits and attitudes match the intended (e.g., beginner practitioner) qualification level
- Consider the role of the humanities in developing general life roles, multicultural democracy, lifelong learning and generic competencies
- Verbs are carefully selected as it reflects learning domains and experiences
- Allow lecturers freedom of choice in terms of having 'performance criteria' and 'range statements'
- Group performance outcomes, observe competence clusters and identify units within modules
- Sequence outcomes and units according to logical learning perspectives
- Module descriptors for workplace learning (teaching practice) are attended to
- Course outlines match time available with specified outcomes and reflect possible overloading
- Course outline verbs reflect the theoretical (T) or practical (P) learning and assessment

## **10. Establishing the broad programme structure**

- Standardize modular length for semesters
- Design the programme structure in terms of scope and sequence of modules per semester
- Relate the sequence of modules to possible prerequisites

- Consider differentiation in terms of weight / periods per module
- Indicate core and elective modules to suit career interests / specialisation
- Use academic freedom to create core and elective modules beyond NQA specifications
- Consider if modules could serve in other programmes too and the timetable implications of that
- Reflect on titles for modules: some could reflect more marketable titles
- Indicate work-based learning (teaching practice) modules
- Ensure the programme meets the required NQA hours and other directives
- Consider multiple exit points
- Consider phasing in of the new programme and phasing out options

## **11. Developing the assessment regulations and instruments**

- Keep in mind that assessment policies and procedures should be feasible, credible and reliable to ensure quality
- Reflect on the role of continuous assessment towards quality
- Consider the admission percentage to examinations
- Determine the passing grade for theoretical and practical tests
- Understand that passing of demonstrations of competence require passing grades on a criterion-referenced basis and not on an aggregate score
- Describe the re-testing policy per module
- Consider the possible use and feasibility of assistant markers
- Clarify the role of non-grading tests and feedback
- Clarify the role of self-assessment and peer assessment
- Design assessment records that could accommodate re-test and non-grading results
- Update computer software if necessary to handle new assessment regulations and forms
- Specify the weight of different assessments towards the final mark, e.g. shorter / longer tests and assignments contribute different weights towards the admission mark
- Specify the weight of continuous and summative assessment towards the final mark
- Pay special attention to the work-based performance and portfolio assessment
- Revisit promotion rules and the contribution of teaching practice towards promotion
- Module descriptors, course outlines and performance checklists guide students regarding theoretical and practical assessment regulations
- Clarify regulations regarding internal and external moderators
- Specify regulations regarding the evaluation of assessment results by departments
- Compile some performance instruments and written tests per module
- Compile guidelines for assessing teaching practice lessons
- Revisit the need for supplementary examination papers
- Consider the assessment implications of a Namibian teacher licensing system



## **12. Obtaining programme approval from key stakeholders**

- Identify who and how many external stakeholders verify the details of the programme, e.g., the NQA, Teacher Unions and principals
- Consider the method(s) to be applied to verify the programme
- Faculty considers external stakeholders comments and finalise the details of the programme
- Formal NQA recognition of the qualification is obtained
- Senate approval is obtained

## **CBE IMPLEMENTATION STEPS:**

### **13. Leading and managing administrative changes**

- The dean and departmental heads reflect on leadership and management functions
- Revisit the policy regarding lecturers' compulsory office and consulting hours in order to provide more individual / small group tutoring
- Integrate the increase in instructional management hours due to meetings, individual tutoring, scanning non-grading tests, marking re-tests, admission test marking, etc. into the workload formula of lecturing staff
- Ensure administrative staff understand the new assessment records in terms of re-testing and non-grading columns
- Align the recognition and reward system with effective CBE practices, including the official student feedback form on lecturers performance
- Revisit registration fees to cover admission tests, possible tutor assistants, RPL activities, multiple registration ...
- Revisit the academic and financial autonomy of a faculty
- Motivate the need for changes to workload policy
- Negotiate the type of required input from other faculties regarding your particular programme
- Consider the introduction of a school-based mentoring system
- Formulate a policy regarding the contracting of teachers for teaching subject methodologies
- Formulate a policy regarding the goals of subject methodology teaching
- Consider ways to support departmental heads with their administrative duties
- Create plans for inter-faculty collaboration

### **14. Establishing a CBE oriented instructional management system**

- Discuss possible restructuring of discipline-based departments in the faculty, e.g., programme-based structures
- Disseminate documents with guidelines for team teaching, student support, setting of papers, giving feedback and CBE teaching-learning characteristics
- Create or restructure committees to promote departmental collaboration
- Revisit the nature and tasks of a unit to organise the logistics of work-based learning / teaching practice
- Assign new duties to staff to promote instructional management

- Indicate what type of instructional management documents must be available on file per department

### **15. Compiling bridging (pre-entry) courses and material**

- Against the background of learner characteristics and admission criteria develop possible needed bridging courses and materials as separate courses or to be part of relevant modules

### **16. Designing a timetable**

- The programme timetable reflect the allocated weight per module
- Provision is made for core and electives
- Provision is made for work-based learning (teaching practice)
- Synchronise the programme timetable with the broader institutional timetable if students are involved in both types of timetables
- Inform other faculties well in advance about students' absence from lectures while doing teaching practice

### **17. Appraising the required physical facilities**

- Are there adequate lecturing and tutoring venues?
- Is there a need for a computer, simulation (micro teaching) or other type of laboratory?
- Are enough offices available for possible additional staff?
- Consider also what venues can be used for meetings.

### **18. Appraising the need for staff**

- Match the expertise and interests of available faculty staff with the programme needs
- Determine whether the workload of individual lecturing staff members could accommodate the new programme needs
- Appraise the need for additional administrative staff if re-application of staff is not enough
- Consider the benefits and limitations of contract staff, particularly the contracting of teachers for subject methodologies

### **19. Identifying required teaching-learning resources**

- Consult module descriptors and compile a list of teaching-learning resources required
- Identify textbooks and other learning resources to promote self-directed and experiential learning
- Consider transport needs for lecturing staff during teaching practice
- Select schools involved in the teaching practice that are providing an adequate learning environment for students, since not all school do
- Consider the introduction of teachers trained as mentors for students
- Consider the effectiveness of the current Internet bandwidth of the university

- Provide lecturing staff with computers and Internet access
- Consider the development of an online system

## **20. Drawing up a budget**

- Analyse the financial implications per step for students and the institution
- Consider phasing in and phasing out costs

## **21. Advertising to procure students and staff**

- Employers, parents and donors need to be informed about the new type of education and the expected quality of the graduate
- Advertise internally among other faculties for the needed expertise
- Advertise externally for administrative and academic staff according to the determined needs
- Market the new qualification through various means
- Indicate in advertisements possible additional costs, related career development options and the RPL possibility
- Adapt yearbook to reflect programme and policy changes

## **22. Selecting staff and acquiring teaching-learning resources**

- Interview lecturing and administrative staff
- Acquire the previously identified resources
- Develop learning materials / packages
- Reproduce module descriptors and learning materials
- Reproduce student feedback questionnaires
- Develop some performance and written tests

## **23. Training staff in CBE theory and practices**

- Lecturing staff need to understand the CBE philosophy and characteristics, their expanded facilitation role as well as their instructional management role, the assessment system, team teaching, etc.
- Administrative staff need to understand the new policies, procedures and documents

## **24. Piloting the programme**

- Consider multiple registration opportunities
- Register students and apply the developed recognition of prior learning (RPL) system
- Clarify for students the programme features and their expected roles
- A monitor team, e.g. the development task force and project co-ordinator, are appointed to monitor the programme implementation
- Monitor availability and effectiveness of learning materials
- Monitor student support plans
- Monitor team teaching and workload of staff
- Monitor the level of students taking responsibility for their own learning

- Use performance assessment instruments during instruction
- Reflect on organisation and effectiveness of workplace competence assessment
- Monitor problems experienced with the assessment policy
- Faculty management and staff apply the new policies and practices decisively
- Require from departmental heads to evaluate the instructional management effectiveness
- Students evaluate the lecturers' performances via questionnaires that reflect CBE oriented perspectives

## **25. Continuous evaluation of the programme quality and institutional environment**

- Appoint a quality control / evaluation team in the Faculty of Education
- Conduct both formative and summative evaluation
- Evaluations often move beyond judging contextual factors to consider international developmental trends as well
- Different evaluation methods are applied: survey questionnaires, telephone surveys, interviews, participant observation, analysis of programme documentation, reports on teaching practice students, critical incidents and non-traditional methods such as diaries or videos.
- *Semesterly evaluation*: staff evaluate the scope and depth of course outcomes; staff evaluate assessment instruments; students evaluate lecturing staff; faculty management analyses enrolment and assessment data;
- *Annual / bi-annual evaluation*: programme outcomes; enrolment data; final assessment results; evaluation of assessment policy and procedures; external review of programme structure and module descriptors; incorporation of existing modules into other programmes
- *Every three to five years evaluation*: monitor the institutional effectiveness in terms of the mission; goals; programme quality; quality assurance unit and policy; administrative policy and structures' effectiveness; staff and student support; growth in student numbers;
- Use feedback to refine aspects of the programme
- Inform stakeholders of successes and changes to a programme

## **26. Certifying students**

- Consider multiple exit points with certification
- Add a refined DACUM chart to certification documents to reflect competencies

*Thank you for your time and input thus far. Should you be interested to comment on this document please open the second attached document.*

*F. Engelbrecht  
2006*

## APPENDIX 10:

### COVER LETTER AND RESPONSE SHEET ACCOMPANYING THE INTERNATIONAL SURVEY

Dear Prof./Dr./ Madam/Sir

I am a senior lecturer in the Faculty of Education at the University of Namibia, situated in the city of Windhoek. Namibia is one of the neighboring countries of South Africa and Windhoek is the capital city of Namibia with roughly 250 000 inhabitants.

Much has been written about competency-based (CBE) education theories, but not so much about applying those ideas to programme design. The Namibian government has adopted the national implementation of CBE programmes for training and education, thus this research. The attached document proposes a possible CBE programme design and implementation framework for teacher qualifications at the University of Namibia.

The purpose of this study is to obtain feedback from CBE experts all over the world regarding the appropriateness of the attached programme design and implementation framework: The respondent is required to comment on the appropriateness of the identified steps, their sequence and the activities per step. You have received two documents with this mail: The first one delineates the design and implementation framework. The second document could be used to forward comments on the first document. The focus of the comments is repeated on the second document and the design and implementation comments are separated. Should you be interested to forward any comments to me, please reply to: [u-gro@namibnet.com](mailto:u-gro@namibnet.com) by the end of the first week in June 2006.

Your feedback will be highly appreciated by me, the University and the government of Namibia.

Yours sincerely

Frikkie Engelbrecht

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**RESPONSE TO ENGELBRECHT's CBE DESIGN AND  
IMPLEMENTATION FRAMEWORK:**

**Name of assessor:**

**Rank/Title:**

**Institution:**

**Country:**

**E-mail of assessor:**

Re: Comments on the *appropriateness* of the competency-based (CBE) design and implementation framework steps, *sequence* thereof and *activities* / elements per step:

**Comments on the CBE design steps:**

**Comments on the CBE implementation steps:**

*I sincerely appreciate your time and effort to provide feedback.*

*Please forward this form back to F. Engelbrecht at: [u-gro@namibnet.com](mailto:u-gro@namibnet.com)  
by the end of the first week in June 2006.*

## APPENDIX 11:

### LIST OF RECIPIENTS OF THE CBE DESIGN AND IMPLEMENTATION FRAMEWORK (TABLE 2.13 / APPENDIX 9)

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## **APPENDIX 12:**

### **SUMMARY OF THE FEEDBACK OF THE INTERNATIONAL SURVEY**

1. All aspects related to design are identified.
2. All design steps are addressed.
3. All implementation steps are addressed.
4. The steps are comprehensive and cover everything that might be relevant in a particular context.
5. The frameworks are very comprehensive.
6. The design and implementation framework are comprehensive – perhaps too comprehensive sometimes.
7. The frameworks seem feasible.
8. The feasibility of the frameworks should be tested by piloting it.
9. A pilot of these steps will best show what could be streamlined in terms of details per step and the sequence thereof.
10. The frameworks are very systematic.
11. To have an implementation framework is a necessity in order to ensure that a well designed programme is realized effectively.
12. The sequence of the implementation steps will change due to the contextual factors.
13. Step 17 (Appraising the required physical facilities) should rather precede step 16 (Timetable) and step 18 (Need for staff) as the availability of facilities impact on these two steps.
14. The design and implementation framework seem applicable to faculties across UNAM.
15. The steps are in order but the ‘management of the change’ would be important to deal with the resistance in some faculties of UNAM.
16. The framework steps are acceptable but whose perspectives are eventually going to be accepted.
17. It is of paramount importance to clarify and discuss the rationale for selecting a CBE approach.
18. The frameworks could be used as checklists to manage the development and implementation of programmes.

19. A too narrow academic focus must be guarded against. The role of outcomes and their level and focus cannot be overemphasised.
20. It is positive that the module descriptors provide the expected knowledge levels as well and not merely specify competencies.
21. It is appropriate that indigenous knowledge is addressed as well (step 9 – ‘compiling module descriptors’).
22. Although the steps appear to be linear, they are however connected and there is a cyclical relationship between them.
23. It is positive that stakeholder participation is emphasized.
24. It is appropriate that designers are reminded to adhere to the NQA requirements.
25. The consideration of multiple exit points (Step 10 – broad programme structure) as well as the phasing in and phasing out implications (Step 20) are appropriately addressed. Perhaps phasing in and out implications should be considered already in step 7 (Determine admission requirements).
26. Keep in mind that the outcomes could measure traits and attitudes via methods such as portfolios, observations and interviews.
27. The suggested use of a matrix to monitor the incorporation of competencies in modules (step 9) is important.
28. It is advisable to use more than one assessment instrument for each major competency and multiple ways to assess major competencies.
29. The development of competencies needs practice, practice, practice. The teaching-learning environment should provide for this just as the assessment of competencies requires assessment beyond the conventional pen-and-paper tests.
30. All faculty members need to be able to use the common assessment tools for teaching practice in a similar fashion.
31. It is important to have interfaculty collaboration when leading and managing administrative changes.
32. The use of excellent teachers for methods courses is advisable.
33. Make sure that the continuous evaluation of the programme involves stakeholders from a wide range of stakeholders.