

**EXPLORING STUDENT TEACHERS' ACTIVE LEARNING
THROUGH SELF-ASSESSMENT, PEER ASSESSMENT AND
REFLECTION AT RUNDU CAMPUS OF THE UNIVERSITY OF
NAMIBIA**

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degree of
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DECLARATION

I declare that the thesis Exploring *student teachers' active learning through self-assessment, peer assessment and reflection at Rundu Campus of the University of Namibia* is my own work and that all the sources I have indicated have been acknowledged by means of complete references. The thesis has not previously been submitted for any degree or examination at any other university.

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Signature

March 2013

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Date

ABSTRACT

Student teachers are faced with the challenge of adapting their teaching so as to accommodate active learning through self-assessment, peer assessment and reflection. The objectives of the study were therefore to explore how active learning may be enhanced through self-assessment, peer assessment and reflection. The participants in the study were second- and third-year students at Rundu Campus of the University of Namibia. The research employed a case study design with qualitative data and using a descriptive, contextual approach. Semi-structured interviews, focus-group interviews and observations were utilised to obtain data. Once consent was obtained from the relevant authorities, second- and third-year student teachers were interviewed. Ethical requirements were adhered to throughout the research process. The findings indicated that students had both positive and negative perceptions in respect of self-assessment, peer assessment and reflection in promoting their active engagement in learning. Overall, the findings of the study revealed positive signs that active learning can be enhanced by student teachers through the use of strategies such as self-assessment, peer assessment and reflection. The study also pointed to implications of the research for teacher education practices and possible future research.

DEDICATION

This study is dedicated to my late grandmother, Mbulawaye Mutimani for her inspiration and motivation that influenced my commitment to further academic studies.

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LIST OF ACRONYMS

BETD	Basic Education Teacher Diploma
MBEC	Ministry of Basic Education and Culture
PBL	Problem-based learning

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CHAPTER 1

ORIENTATION TO THE STUDY

1.1 JUSTIFICATION FOR THE STUDY

This study was motivated by various factors, chiefly my personal experience as a teacher educator at one of the campuses of the University of Namibia (formerly the Rundu College of Education). My aim was to investigate the potential importance of self-assessment, peer assessment and reflection in the active learning of students in an initial teacher-education programme.

Providing quality teacher education to all student teachers is crucial for any country. However, the most vital factors that may be responsible for student learning could relate to how the teaching-and-learning and assessment processes occur, and the context in which student teachers examine their own teaching and learning practices. Black and William (1998:2) define *assessment* as all those activities undertaken by both teachers and students in assessing themselves, which provides information they can use as feedback to modify the teaching activities in which they are engaged. Sambell, McDowell and Brown (1998:349) argue that self-assessment refers to people being involved in making judgements about learning and progress, which contributes to the development of autonomous, responsible and reflective individuals. Boud (1992:5), who defines *self-assessment* as involving students in identifying standards and/or criteria to apply to their work and judging the extent to which they have met these criteria, supports this position. Rolheiser and Ross (2000:3) describe self-assessment as “students judging the quality of their work, based on evidence and explicit criteria for the purpose of doing better work in the future”. Montgomery (2001:5) provides a related definition of self-assessment: “... an appraisal by a student of his or her own work or learning processes”.

Stefani (1998:339) maintains that peer assessment is a particularly useful device for supporting reflective practice, because of its focus on dialogue and shared interpretation of teaching and learning between staff and students. This means that students learn from one another and use the feedback provided by peers to inform their own learning. According to Topping (1998:249), *peer assessment* is “... an arrangement in which individuals consider the amount, level, value, worth, quality, or successfulness of the products or outcomes of learning of others of similar status”. This point of view is supported by Falchikov (1995:175)

who defines peer assessment as a process in which individuals rate their peers by agreeing on appropriate criteria and then accurately applying the assessment. Reiders and Lazaro (2007:1-13) assert that, if conducted appropriately, peer assessment can provide numerous benefits to learners. Furthermore, peer assessment has the advantage of helping students to examine their learning progress critically. Through this monitoring process, students understand their own learning better (Reiders & Lazaro, 2007:1-13). Van den Berg, Admiraal and Pilot (2006:19) delineate peer assessment as a process in which students assess the quality of their fellow students' work and provide one another with feedback.

Of equal importance to students' active participation in their learning are reflective skills. Reid (1993:306) defines *reflection* as "a process of reviewing an experience or practice in order to describe, analyse, evaluate and so inform learning about practice". Moon (1999:880) argues that reflection can be seen as a tool that facilitates personal learning towards the outcomes of personal development, which ultimately leads to empowerment and emancipation. Moon (1999) further notes that reflection works more effectively at higher levels of learning such as making meaning and at the level of transformative learning.

According to Osterman and Kottkamp (1993:19), "... reflective practice is a means by which practitioners are able to develop a greater level of self-awareness about the nature and impact of their performance". This implies that awareness of individuals' performance may contribute to improved practice.

1.2 RESEARCH PROBLEM

In my capacity as a lecturer at the Rundu Campus of the University of Namibia (formerly the Rundu College of Education), I have observed that student teachers have difficulty in performing classroom activities such as actively participating in group work. In classroom situations where students are supposed to work, respond and present ideas as individuals, some of them fail to perform as expected. The problem seems to be that active learning is not properly acknowledged and promoted in initial teacher education and might be better acknowledged and promoted by strategies such as self-assessment, peer assessment and reflection.

In order to make learning more relevant to the needs of student teachers, it seemed important to enhance active learning through self-assessment, peer assessment, reflection and direct involvement of student teachers as a catalyst for promoting active participation among

student teachers. As a teacher educator in education theory and practice, I believe that active learning can have significant effects on the quality of student learning. In active learning, students are required to use information critically and analytically. Nardos (2000:24) maintains that active learning is likely to be enjoyed, offers opportunity for progress, and thereby fosters positive student attitudes towards the subjects. This implies that active learning is not only desirable but also essential in student learning. It therefore appeared imperative to explore the perceptions of students on active learning and the role of self-assessment, peer assessment and reflection in enhancing active learning at least one higher education institution.

1.3 RESEARCH QUESTIONS

In order to obtain a good understanding of the problem stated above and make it manageable, it was important to break the problem down into research questions. According to De Vos et.al (1998:116), research questions are more relevant to the purpose of qualitative studies, while hypotheses are more likely to be used in quantitative research. The research question that formed the central focus of this study is stated below.

1.3.1 Main research question

How may self-assessment, peer assessment and reflection enable student teachers to engage actively in their own learning?

1.3.2 Subquestions

- What are student teachers' conceptions of active learning?
- What roles do self-assessment, peer assessment and reflection play in student teachers' demonstration of their instructional skills?
- What are student teachers' perceptions regarding how peer assessment, self-assessment and reflection strategies contribute towards active learning in their studies?
- In what ways are student teachers actively involved in the assessment of their own professional preparatory learning?

1.4 RESEARCH AIM AND OBJECTIVES

The main research aim of this study was to determine how self-assessment, peer assessment and reflection may contribute to student teachers' active learning in their initial preparation for their profession.

Research objectives are seen as the steps one has to take at grass-roots level, within a specified time in order to attain the research goal (Fouché in De Vos, 2002:107-108).

The research objectives of this study were to determine:

- How student teachers view the concept of active learning
- The role self-assessment plays in student teachers' learning activities
- The role peer assessment plays in student teachers' learning activities
- The role reflection plays in student teachers' learning activities
- How to construct more active learning opportunities for student teachers by using self-assessment, peer assessment and reflective skills.

1.5 RESEARCH PARADIGM AND DESIGN

A paradigm, according to Babbie (2001:42), is the fundamental model or frame of reference we use to organise our observations and reasoning. Creswell (1998:74) argues that all qualitative researchers approach their studies within a certain paradigm or world-view, which constitutes a basic set of beliefs or assumptions that guides inquiries. Creswell (2003) indicates that using qualitative research is fundamentally an interpretive approach. This implies that the researcher interprets the data by developing descriptions of individuals/settings, analysing the data for themes or categories, and finally making an interpretation or drawing conclusions about their meaning, personally and theoretically, about lessons learnt and suggesting questions to be asked (Creswell, 2003:182).

The interpretive paradigm underpins this research in that it mainly centres on the significance of participants' views and how what meaning can be made from their views. The research design is the researcher's plan of inquiry (Bogdan & KnoppBiklen, 2006:54; McMillan & Schumacher, 2001:72) that sets the paradigm or the lens of interpretation into motion (Denzin & Lincoln, 2000:22). The research design also assists with how to proceed in gaining an understanding of phenomena in more natural settings (Ary *et al.*, 2002:426). The purpose of a

research design is therefore to provide, within an appropriate mode of inquiry, the most valid and accurate answers possible to the research question (Denzin & Lincoln, 2000:22; McMillan & Schumacher, 2001:31). According to McMillan and Schumacher (2001:31), the research design is a very important part of an investigation since certain limitations and cautions in interpreting the results are related to each design and also because it determines how the data need to be analysed. Mason (2002:250) argues that the research design encourages the process of decision making from the very beginning; it continues throughout the entire research process and calls for constant review of decisions and approaches (Ritchie & Lewis, 2003:4). In this study, a case-study design was used with a view to capturing the perspectives and perceptions of student teachers in one institution for teacher education in Rundu, Namibia.

Gorman, Hamersley and Foster (2003:3), define case-study designs as referring to research that investigates a few cases, often just one, in considerable depth. The value of the case study lies in the potential richness of data and the extent to which the research can convey a sense of how the case functions.

In this instance, the case-study design enabled the researcher to retain the holistic and meaningful characteristics of real-life events. The case study stems from its focus on just one instance of the topic that is to be subjected to intensive scrutiny (Denscombe, 2003:31; Huysamen, 2001:168). It takes multiple perspectives and attempts to understand multilevel influences on perspectives and behaviour (Babbie & Mouton 2001:281). In this study, the selected institutional case attempted to look for deeper information on the perceptions of student teachers on self-assessment, peer assessment and reflection to determine possible ways in which these factors may influence active learning. Case studies are particularly useful because, concentrating on one case rather than many, they point out insights that can have wider implications that may not easily be realised when dealing with a broader scope. This is done by focusing on the particular to become enlightened about the general. By means of scrutiny of the role of self-assessment, peer assessment and reflection in possibly promoting active learning, the researcher hoped to gain a better understanding of the phenomenon of active learning within the context of teacher education. Denscombe (2003:38) contends that using case studies helps the research to focus on one or a few instances and this allows the researcher to deal with the subtleties and intricacies of complex

situations. It assists the researcher in grappling with relationships and social processes in a holistic way rather than basing his or her findings on mere social facts.

1.5.1 Sampling

Fox and Bayat (2007:54) describe a sample as any subset that is obtained from the elements of the population to be studied. Uys and Puttergill (2003:107) explain that sampling is a process of selecting part of a group being studied, and choosing a sample is one way to optimise the use of resources in a research design.

According to McMillan and Schumacher (2006:321), the group of subjects or participants from whom the data are collected, is referred to as a sample. These authors further explain the sampling process of a population as dynamic, *ad hoc* and phasic rather than static or *a priori*. Ritchie and Lewis (2003:83) state that qualitative samples are usually small because a phenomenon has to appear only once to be part of an analytical map.

Neuman (1997:20) says that sampling should be viewed as the process of selecting a number of individuals for a study in such a way that the individuals represent the larger group from which they were selected. Furthermore, Terre Blanche, Durrheim and Painter (2006:249) argue that sampling refers to the process of selecting research participants from the study population that has been identified. Purposive and convenience sampling were used to select participants in the present study. *Purposive sampling* involves the conscious selection by the researcher of certain participants to be included in the study (Burns & Grove, 1997:306). According to Brink (2006:133), sampling is thus based on the judgement of the researcher. Pilot and Hungler (1995:232) allude to *convenience sampling* as the selection of the most readily available people in a study. Brink (2006:132) maintains that the term *convenience* is synonymous with ‘accidental sample’ and ‘availability sample’. Sixteen student teachers participated in this study. According to Pilot and Beck (2006:291), inclusion criteria are ways of specifying the characteristics needed from a population. The criteria for the selection of participants for inclusion in this study were as follows:

- The participants had to be second- and third-year student teachers.
- Willingness to participate in the study.
- Extended exposure to teaching and learning. My selection of second- and third-year student teachers as my sample of convenience was influenced by their extended exposure to teaching and learning. They had been exposed to active learning, self-

assessment and reflection during their training and were required to draw upon those experiences to answer questions during individual and focus-group interviews. In addition, these students were considered more mature and able to reveal their opinions about active learning through self-assessment, peer assessment and reflection.

1.5.2 Data-collection instruments

Following on the premise that data collection in qualitative research involves the gathering of information from a variety of data sources (Holloway, 1997:45), data collection techniques in this study consisted of semi-structured interviews, focus-group interviews and researcher observations. According to De Vos, Strydom, Fouché, Poggenoel and Schurink (1998:82) data-collection methods are chosen based on the best ways to obtain the data needed to explore a particular research issue or question.

Mills (2003:4) asserts that “qualitative research uses narrative and descriptive approaches for data collection to understand the way things are and what they mean from the perspective of research respondents”. The most practical, efficient and ethical methods for collecting data need to be selected (Marshall & Rossman, 1999:138). The chosen method must be suitable and well thought through as each method of data collection has its own unique strengths. Slavin (1992:70) indicates that in collecting qualitative data, the researcher is trying to record everything of importance, which means he/she is constantly making decisions about what is important by being overly selective. In this study, data were collected by means of semi-structured interviews, focus-group interviews and observation.

1.5.2.1 Semi-structured interviews

According to De Vos (2005:296), researchers use semi-structured interviews in order to gain “a detailed picture of participants’ belief or perceptions or account of a particular topic”. This type of interview allows the researcher and participants more flexibility. In the present study, the researcher gained participants’ detailed perceptions on active learning through self-assessment, peer assessment and reflection. The researcher chose this tool because it is flexible for both the interviewer and interviewee (Ritchie & Lewis, 2003:111). De Vos (2005) also indicates that semi-structured interviews provide the researcher with a set of pre-determined questions on an interview schedule and that the interview is guided by the schedule. An interview schedule was used to guide the researcher in asking questions. According to McMillan and Schumacher (2001:446), “qualitative interviewing requires

asking open-ended questions”. McMillan and Schumacher (2001:269) further argue that “semi-structured questions have no choices from which the respondent selects an answer; rather, the question is phrased to allow individual responses. It is an open-ended question but it is fairly specific in its intent”.

Hitchcock and Hughes (1997:156) hold that “the semi-structured interview is a much more flexible version of the structured interview. It is the one that tends to be most favoured by educational researchers since it allows depths to be achieved by providing the opportunity on the part of the interviewer to probe and expand the respondent’s responses”.

The researcher used semi-structured interviews in order to explore the perceptions of student teachers with regard to active learning through self, peer assessment and reflection. The researcher prepared questions for participants before the interview and was guided by the schedule. Individual interviews were conducted with eight student teachers who were deemed to be particularly information rich. The main aim was to understand and describe how the interviewed student teachers, perceived self-assessment, peer assessment and reflection in determining whether active learning had occurred. The semi-structured interviews were used in this study so as to get the opinions of individual participants so that they could possibly provide information that would be applicable to answering the research question. In this study, eight interviews were conducted in order to achieve understanding of the participants’ points of view on the research topic in question.

1.5.2.2 Focus-group interviews

According to De Vos *et al.* (1998:314), a focus-group interview can be described as a purposive discussion of a specific topic or related topics taking place between eight to ten individuals with a similar background and common interests.

A focus group is described by Barbour (1999:S19) as a researcher-selected group that is convened for the purpose of discovering a specific research problem. In a focus-group interview, the participants interact with one another rather than with the interviewer, with the result that data emerge from the interaction of the group (Cohen, Manion & Morrison, 2001:289).

Focus-group interviews have been found to be a highly efficient technique for qualitative data collection since the amount and range of data are increased by collecting from several people

simultaneously (Robson, 2002:284). Morgan (2006:12) maintains that focus-group members share their experiences and thoughts, while also comparing their own contributions with what others have said. This process of sharing and comparing is especially useful for hearing and understanding a range of responses on each research topic. The best focus groups thus not only provide data on what the participants think but also on why they think so.

According to De Vos *et al.* (1998:313), researchers use focus-group interviews as a means to elicit information from participants. Van Zyl (2002:28) maintains that focus-group interviews “are utilised to obtain data from a small group of participants and these participants must have common interests that are linked to the subject that is researched”. For this reason, the researcher selected student teachers who were familiar with the concepts of active learning, self-assessment, peer assessment and reflection. The focus-group interview was facilitated by an independent moderator and a scribe. The room prepared was quiet and relaxed and it was unfamiliar to the participants. There were no disruptions during the interviews and the participants were freely able to communicate their opinions. The field notes taken by the scribe were complemented by electronic recordings (Creswell, 2003:190).

In this study, a focus-group interview was selected to ensure that the discussion that took place was limited to the specific theme under investigation. Furthermore, it allowed the researcher to accommodate multiple points of view from various participants in a short space of time.

McMillan and Schumacher (1993:432) maintain that the primary data of qualitative interviews are verbatim accounts of what transpires in the interview sessions. In the light of this, the researcher electronically recorded the interviews in order to ensure the completeness of the verbal interaction and provide material for reliability checks. The researcher transcribed verbatim data from electronic recordings and handwritten notes were also taken during interviews.

1.5.2.3 Observations

Observation was used in order to get answers to the research questions by observing students while actively participating in the lessons.

The Oxford Advanced Learner’s Dictionary (2005:355) defines observation as an “act of watching carefully for a period of time”. Observation was used in order to find answers to

research questions by observing students during active learning. Engelbrecht, Eloff, Lomofsky, Masipa, Oswald and Swart (2003:17) believe that "... observation is a major means of collecting data in qualitative research". The reason is that it offers a first-hand account of the situation under investigation. McMillan and Schumacher (2001:273) also note that the "... observation method relies on a researcher seeing and hearing things and recording these observations, rather than relying on the subject's self-report to questions or statements. Furthermore, Leedy and Ormrod (2005:145) point out that observations in a qualitative study are intentionally unstructured and free flowing, allowing the researcher to be flexible, shifting his/her focus from one thing to another as some new events or important objects present themselves in the situation. To study active learning field notes were made during classroom observations, with the researcher recording information as it happened. Observations were recorded during five classroom lessons in the form of field notes. In this study, the researcher observed how student teachers actively participated in the lesson. The observation technique was applied practically to examine the degree of implementation of active learning in classrooms.

1.5.3 Data analysis

Data analysis describes the procedure(s) that a researcher uses to analyse data (De Vos *et al.*, 1998:100; Maykutt & Morehouse, 1994:127). This study adopted a qualitative data-analysis method. According to McMillan and Schumacher (2001:462), qualitative data analysis is an ongoing process integral to all phases of qualitative research. It is a systematic process of examining, selecting, categorising, comparing, synthesising and interpreting data to address the initial propositions of the study (Leedy & Ormrod, 2001:150; White, 2002:82; Yin, 2003:109).

Merriam (1998:178) puts it as follows: "Data analysis is the process of making sense and meaning from the data that constitute the findings of the study." Therefore, data analysis is the process of making the data more manageable by organising the collected data into categories and interpreting data by searching for recurring patterns to determine the importance of relevant information (Bogdan & KnoppBiklen, 1992:153; Marshall & Rossman, 1999:150).

Marshall and Rossman (1999:150) maintain that qualitative data analysis is the process of bringing order, structure and interpretation to the mass of collected data. It is a messy,

ambiguous, time-consuming, creative, and fascinating process. It does not proceed in a linear fashion; it is not neat. The basic task of any analysis is to make sense out of, or to bring some comprehension and illuminating order to the complex set of practices and interrelationships that are usually the object of inquiry in qualitative research (Addison, 1999:146). In focus-group analysis, the emphasis is not on the number of people who said something, but rather on what they have said. A focus-group report should read like a story rather than a series of tables (Sudman & Blair, 1998:195).

An interview schedule was prepared. Probing questions followed, emanating from the responses given by the student teachers. The semi-structured interview and the focus-group interview processes were electronically recorded and subsequently transcribed. All of the interviews were transcribed immediately after each interview. Field notes were made during lesson observations. The interview data were coded through a process of grouping similar ideas or themes into categories. All of the transcribed interviews were read through in order to gain a sense of the whole. Data were analysed by dealing with one question at a time. The researcher carefully scrutinised the transcriptions for similarities and for differences. All of the data were grouped according to answers to each topic question and then ranked in terms of commonality. When coding was completed, the data were regrouped into categories. This allowed for comparison of what different people said, what themes were discussed and how concepts were understood (Rubin & Rubin, 1995:228).

1.6 LIMITATIONS

This study was restricted to interviewing only student teachers who were pursuing the Basic Education Teacher Diploma (BETD) at the Rundu Campus of the University of Namibia.

The study was also limited in that it did not differentiate between the experiences of lecturers and students. It is possible that lecturers may have different views of active learning through self-assessment, peer assessment and reflection. As a result, the student teachers may not share their predilection for what actually may constitute active learning.

1.7 ETHICAL CONSIDERATIONS

According to Bell (2004:41), the conditions for ethical research in practice are that all participants should be offered the opportunity to remain anonymous, all information should be treated with strict confidentiality, the interviewee should have the opportunity to verify

statements when the research is in draft form, and that all participants should receive a copy of the final report. Cohen *et al.* (2001:292) identify three main areas of ethical issues when interviews are used, namely informed consent, confidentiality and the possible consequences of the interview. Adherence to these principles assisted in building a good relationship between the researcher and the study participants. Knowing that their participation was voluntary and that they had the right to withdraw, further enabled participants to provide informed consent, created a sense of trust and built participants' confidence. In this study, the researcher adhered to observing and upholding research principles. Since the study involved interviewing student teachers after school hours, the researcher obtained permission from the head of the institution. The participants were informed that their participation was vital, but that their role was voluntary and that they were free to withdraw should they feel uncomfortable during the course of the study. For purposes of confidentiality and anonymity, the identities of the study participants were indicated by means of letters of the alphabet. The study was ethically cleared according to the standard procedures prescribed by the Stellenbosch University.

1.8 CHAPTER OUTLINE

This study is organised into the following chapters:

The present chapter is an orientation to the research study carried out. Chapter Two provides a conceptual framework for the study by reviewing the relevant literature and providing theoretical background. Chapter Three discusses the research design and methodology used in investigating how active learning may have been promoted through self-assessment, peer assessment and reflection. Chapter Four presents the empirical findings of the study and in Chapter Five the researcher discusses and interprets the findings of the study, draws conclusions and points to a number of implications of the research.

1.9 SUMMARY

This chapter provided justification for the choice of the research problem formulated the research questions and outlined the aims and objectives of the research mentioned, while also describing the research design and methodology. An outline of the research chapters concluded the chapter. The next chapter provides an overview of the literature relevant to the study.

CHAPTER 2

LITERATURE REVIEW

“... Working with literature is an essential part of the research process. It inspires, informs, educates, and enlightens. It generates ideas, helps form significant questions and is instrumental in the process of research design. A well-controlled literature review is an important criterion in establishing credibility”(O’Leary, 2004:66).

2.1 INTRODUCTION

The literature review comprises four sections, which assisted in providing a theoretical framework for the study. The first section reviews a body of literature on active learning. It starts with a definition of active learning in the context of learning, and then focuses on differences between active and passive learning. Some definitions, approaches to learning, learning styles and types of learning are also highlighted. In the second section the concept of assessment, the purpose of assessment and the types of assessment are reviewed. The third section focuses on the role of feedback in student learning, while the fourth section explores the issue of reflection in student learning.

2.2 LEARNING

Savin-Baden (2000:9) defines learning as a ‘cyclical process’ in which students develop an understanding of themselves and their contexts, and also understanding of the situations in which they learn effectively. Ramsden (1992:16) refers to learning as a long and uncertain process of change in understanding.

Tyler (1949: 63) states that “learning takes place through the active behaviour of the student; it is what he does that he learns, not what the teacher does”. Wakefield (1996:364) is of the opinion that learning can be described as a relatively permanent change in the behaviour of an individual based on his/her experience or discoveries. Therefore the process of experience and discovery leads to a new understanding of the world and ourselves and enables us to apply the acquired knowledge in new situations. Schunk (2004:2) concurs with Wakefield when defining learning as “an enduring change in behaviour, or the capacity to behave in a given fashion, which results from practice or other forms of experience”. According to this definition, learning means developing new actions or modifying existing ones. Learning also

has to do with being able to display new knowledge, beliefs or behaviour. This definition also emphasises the fact that learning can take place in a variety of ways. Student learning is therefore manipulated by various factors. Such factors include the environment and the climate of a learning organisation (and others). One very important factor that determines learning is a student's approach to learning and his/her preferred style(s) of learning. These approaches are briefly discussed in the next sections.

2.2.1 Approaches to learning

Gravett and Geysers (2004:26-27) classify two types of learning: The first type is *learning about*, which encompasses nearly all the learning in educational institutions. This kind of learning includes the learning of facts, concepts and procedures and is an essential part of university learning.

The second type is *learning to be*, which depicts learning as the “practices of inquiry of the knowledge domain and how best to utilise the conceptual frameworks of the knowledge domain in support to the inquiry” (Gravett, in Gravett & Geysers, 2004:27). Gravett (in Gravett & Geysers, 2004:24) also argues that each “learning approach leads to differences in the quality of learning outcomes”. Consequently, students will implement one of several approaches to achieve specific learning outcomes.

Studies in learning have shown that students can use different learning strategies to enable them to internalise and contextualise what they have learnt. Entwistle (in Knight, 1995:101) differentiates between three possible ways in which a student may learn (see Table 2.1). Students may learn using the deep (transforming) approach, the surface (reproducing) approach or strategic (organising) approach to learning. Each student is capable of any of these types of learning, as approaches refer to how students relate to what they are learning. Whatever approaches the student uses is determined by the task at hand, the learning environment, the teaching process and the assessment process. The challenge to teachers is to design teaching, learning and assessment activities to engage students to facilitate deep learning.

Table 2.1 Different approaches to learning

<p>Deep approach</p> <p>Intention: to understand ideas for yourself</p> <p>The student</p> <p>Aims to give ideas personal meaning.</p> <p>Transforms incoming information in relation to prior knowledge and experiences.</p> <p>Looks for patterns and underlying principles.</p> <p>Checks evidence and relates it to conclusions.</p> <p>Examines logic and argument continuously and critically.</p> <p>Is an active agent in the learning process.</p>	<p>Transforming</p>
<p>Strategic approach</p> <p>Intention: to achieve the highest possible grades</p> <p>The student</p> <p>Learns by reflective organisation.</p> <p>Puts consistent effort into studying.</p> <p>Finds the right conditions and materials for studying.</p> <p>Manages time and effort effectively.</p> <p>Is alert to assessment requirements and criteria.</p> <p>Fosters a deep approach with alertness to assessment requirements.</p>	<p>Organising</p>
<p>Surface approach</p> <p>Intention: to cope with course requirements</p> <p>The student</p> <p>Uses memorising to produce knowledge in ways acceptable to the teacher.</p> <p>Studies without reflecting on purpose or strategy.</p> <p>Treats the course as unrelated bits of knowledge.</p> <p>Finds it difficult to make sense of new ideas.</p> <p>Feels undue pressure and worry about work.</p> <p>Is a passive agent in the learning process.</p>	<p>Reproducing</p>

Source: Entwistle (in Knight, 1995:101)

The work of Biggs (1999), Entwistle (1988) and Ramsden (1992) provides valuable insight into the characteristics of the approaches to learning and indicates the importance of how we manage the impact of the curriculum on the learning process (see Table 2.2).

Table 2.2 Difference between deep learning and surface learning

	Deep learning	Surface learning
Definition	Examining new facts and ideas critically, and tying them into existing cognitive structures and making numerous links between ideas.	Accepting new facts and ideas uncritically and attempting to store them as isolated, unconnected items.
Characteristics	<p>Looking for meaning</p> <p>Focussing on the central argument or concepts needed to solve a problem</p> <p>Interacting actively.</p> <p>Distinguishing between argument and evidence.</p> <p>Making connections between modules.</p> <p>Relating new and previous knowledge</p> <p>Linking course content to real life.</p>	<p>Relying on rote learning</p> <p>Focussing on outwards signs and formulae needed to solve a problem.</p> <p>Receiving information passively; failing to distinguish principles from examples.</p> <p>Not recognising new materials as building on previous work</p> <p>Seeing course content simply as materials to be learnt for the examination.</p>
Encouraged by students	<p>Having an intrinsic curiosity in the subject.</p> <p>Being determined to do well and mentally engaged when doing academic work.</p> <p>Having time to pursue interests, through good time management</p> <p>Positive experience of education</p>	<p>Studying a degree for the qualification not being interested in the subject.</p> <p>Not focussing on academic areas, but emphasising others.</p> <p>Not enough time /too high a workload.</p> <p>Cynical view of education,</p>

	leading to confidence in ability to understand and succeed.	believing that factual recall is what is required High anxiety.
Encouraged by teachers	<p>Showing personal interest in the subject.</p> <p>Bringing out the structure of the subject.</p> <p>Concentrating on and ensuring plenty of time for key concepts.</p> <p>Confronting students' misconceptions Engaging students in active learning.</p> <p>Using assessments that require thought and requires ideas to be used together.</p> <p>Relating new material to what students already know and understand.</p> <p>Allowing students to make mistakes and rewarding effort.</p> <p>Being consistent and fair in assessing declared intended learning outcomes, and hence establishing trust.</p>	<p>Conveying disinterest or even a negative attitude to the material</p> <p>Presenting materials so that it can be perceived as a series of unrelated facts and ideas.</p> <p>Allowing students to be passive</p> <p>Assessing for independent facts (short answer questions).</p> <p>Rushing to cover too much material.</p> <p>Emphasising coverage at the expense of depth.</p> <p>Creating undue anxiety or low expectations of success by encouraging statements or excessive work load.</p> <p>Having a short assessment cycle.</p>

Source: Biggs (1999), Entwistle (1998) and Ramsden (1992)

Table 2.2 indicates the differences between deep learning and surface learning. In particular: the last row of the table provides some simple guidelines as the “do’s” and “don’ts” in teaching. A particular example is to use problem-based learning rather than producing assessment that requires rote application. It thus seems appropriate that teacher educators need to give assessments where students need to link multiple ideas and concepts. Therefore, in order to encourage active learning, educators might need to concentrate on key concepts, not just in isolation, but also by demonstrating how the components link together. Cherney

(2008) suggests that active learning materials can be remembered better across introductory level and upper level courses when taught by the same instructor. Ramsden (2004) argues that the purpose of higher education is to encourage 'deep' learning and that through this it is anticipated that students will change the way they view the world. Recent studies have revealed that deeper approaches to learning are related to higher quality learning outcomes (Prosser & Millar, 1989; Ramsden, 1992; Trigwell & Prosser, 1991). Suitable course design, teaching methods and assessment can assist in fostering a deep approach to learning.

Deep learning is associated with those learners who attempt to relate ideas to understand underpinning theory and concepts, and to make meaning of the materials under consideration (Fry, Ketteridge & Marshall, 2003). Other examples of deep-level learning characteristics include the following (Gibbs, 1992; Jacques, 1991; Savin-Baden, 2000):

- Gaining a full understanding of the concept
- Providing an overview of a topic
- Grasping the main ideas in a chapter
- Distinguishing principles from examples
- Writing essays with a logical argument
- Questioning the conclusions
- Recognising the key ideas in a lecture.

In contrast, surface-level learning tends to be associated with learners who concentrate on memorising what the author wrote and/or the lecturer said (Marton & Saljo, 1984) and low-level cognitive activities tend to be involved.

Examples of surface-level learning characteristics are as follows (Biggs & Tang, 2007; Gibbs, 1992; Savin-Baden, 2000):

- The learner is more or less forced to adopt a rote-learning strategy
- Concentration is on routine fact memorisation, which can give the impression that understanding has occurred
- Finding the right answer
- Assimilating unaltered chunks of knowledge.

Learning approaches are important because they play a role as process between input (e.g. teaching, student factors) and output (quality of cognitive learning outcomes). Students who

employ a deep approach to learning tend to conceive of learning as transforming information, focussing on the meaning of the material to be learned. In contrast, students who deploy a surface approach tend to conceive of learning as reproducing knowledge and focusing on the reproduction of those materials.

Learning styles are briefly discussed next.

2.2.2 Learning styles

The term *learning styles* reflects the fact that people do not all learn in the same way – a fact of which teachers should take cognisance. Each learner constructs and retains information and acquires certain skills in a unique, personal way (Pudi, 2007:285).

Riet and Herimburge (cited in Pudi, 2007:285–286) give an explanation of Gardner’s theory, which states that there are at least seven distinct intelligences and corresponding learning styles:

- The *linguistic learning style* applies to learners who have strong verbal and language skills.
- The *logical mathematical learning style* applies to learners who are good at manipulating numbers and solving problems.
- The *spatial learning style* applies to learners who can visualise, perceive and recreate aspects of the spatial world.
- The *bodily-kinesthetic learning style* applies to learners who can visualise and who prefer physical activities and goal-oriented movements.
- The *musical learning style* applies to learners who appreciate, recognise and are attuned to rhythm, melody, pitch and tone.
- The *interpersonal learning style* applies to learners who are sensitive to others’ feelings, moods and desires. They are empathetic and understand the needs of others.
- The *personal learning* applies to learners who understand and know themselves.

2.2.3 Implications of learning styles for teaching

Knowledge of one’s learning style is essential in “learning to learn” (Smith *et al.*, 1990). That means that teachers should help students discover their own learning preferences and provide constructive feedback about the advantages of various styles. In addition, educators should

respects the students' present preferences and encourage their development, while at the same time creating opportunities for students to experiment with different ways of learning.

After identifying students' learning preferences, teachers should provide students with opportunities to learn through their modality strengths. It therefore seems important to provide diverse and high interest materials for learning. Sherry (1996:346) argues that "effective learning, however, requires both knowledge of learner styles and advance preparation on the part of the teacher". This may have an impact on learners' success and their overall performance and enjoyment of the learning environment. This point of view is supported by Du and Simpson (2002:4) who state that if we are able to find variables that influence student success, we may be able to design courses according to the students' preferred learning styles to help bridge the gap of not knowing the students as well as in a face-to-face environment. Obviously, there are different views and several theories concerning learning styles, each with a particular focus. Which style the teacher uses when he/she develops instructional strategies for learning is, undoubtedly, a challenging task. Hood (1995:3) notes that "realistically, a teacher cannot be expected to have a different lesson for every child in the classroom; however, lessons can reflect an understanding of individual differences by appropriately incorporating strategies for a variety of learning styles".

2.2.4 Constructivist learning

Deeply rooted in learning theories advanced by Dewey (1916), Piaget (1972), Vygotsky (1978) and Bruner (1990), constructivist learning is defined as active construction of new knowledge based on a student's prior experience. Constructivist learning is thus closely related to the concept of active learning. In this regard, Woolfolk (1993:485) asserts the following:

The key idea is that students actively construct their own knowledge: the mind of the student mediates input from the outside world to determine what the student will learn. This means that learning is active mental work, not passive reception of teaching.

Therefore, in constructivist terms, learning seems to be about constructing knowledge and understanding the world at large by questioning, interpreting and analysing information. It is about using the processed information to investigate and analyse past experiences and knowledge (Marlowe & Page, 1998:10). Constructivism suggests that learning is more

effective when a student is actively engaged in the construction of knowledge rather than passively receiving it. Du Plessis, Conley and Du Plessis (2007:15) reaffirm the principle of constructivism by referring especially to the point of departure that learning is an active process of construction and reconstruction of meaning that takes place in a particular context.

Killen (2007:5-10) identifies some of the characteristics of a constructivist classroom, which can be outlined as follows:

- The students are actively involved.
- A democratic teaching-learning environment is evident.
- The activities are interactive and student-centred.
- The teacher facilitates a process of learning in which students are encouraged to be responsible and autonomous.
- The pursuit of learner questions and interests is valued.
- Learning materials include primary sources and manipulative materials.
- Learning is interactive, building on what the learner already knows (prior knowledge).
- Teachers follow a mediating process to guide learners to construct their own meaning of concepts and content.
- The teacher's role tends to be interactive, therefore rooted in negotiation.
- Assessment includes learner work, observations and points of view, as well as tasks, projects and tests. Process is as important as product.
- Knowledge is seen as dynamic and ever changing with our experiences.
- Collaboration between students in groups is preferable.

Furthermore, in the constructivist classroom, there is a clear emphasis on social and communication skills and also on the exchange of ideas. This is contrary to the traditional classroom in which learners primarily work alone, and learning is achieved through repetition.

Constructivist learning is based on students' active participation in problem solving and critical thinking regarding a learning activity that they find relevant and engaging. The roots of social constructivism can be found in the theories of Vygotsky (1978). Social constructivists, such as Vygotsky, see knowledge and therefore learning as constructed by the interactions of individuals within society. Learning is thus the result of the internalisation of social interaction.

In a constructivist view of learning, learning consists of active construction of meaning and transforming understanding (Candy, 1991:251). This implies that the student participates in the construction of his/her own reality, within a specific context. Candy (1991:270) also indicates that knowledge is tentative and socially constructed; also that knowledge cannot be taught but only learnt. What is essential in learning is how students interpret events and ideas and how they give meaning to these. The constructivist epistemology is based on the premise that learning does not involve discovering the reality, but constructing the reality. Simpson (2002) contends that constructivism is not a theory, but instead an epistemology or philosophical viewpoint in respect of the nature of learning. Schunk (2004) upholds Simpson's argument by pointing out that a theory is a scientifically valid explanation that allows for the generation and testing of a hypothesis. Constructivism, according to Schunk (2004:316), does not claim that learning principles that can be discovered and tested exist but instead holds that learning is created by the student.

Constructivism challenges age-old beliefs that maintain that facts speak for themselves, that knowledge is an ontological reality and that language refers objectively to this reality (Laroche & Bednarz, 1998:5). Confrey (1990:108) describes constructivism as essentially a theory about the limits of human knowledge, a belief that all knowledge is necessarily a product of our cognitive acts. Schunk (2004) argues that if we still want to view constructivism as a theory we must understand that it is not a unified theory, but rests on three different perspectives, namely the exogenous, the endogenous and the dialectical.

Firstly, the exogenous perspective holds that the environment influences beliefs through experiences, exposure to models and teaching; thus learning is a reconstruction of the environment and what is learned is only accurate to the extent that it reflects the environment (Schunk, 2004:288).

Secondly, the endogenous perspective views learning as emanating from previous learning and not directly from environmental stimulation. Thus, learning is not merely a reconstruction of the environment but a cognitive abstraction of all that was previously learned.

In the third instance, the dialectical perspective holds that learning is social and occurs from interactions between people in the environment. This is very similar to the exogenous perspective except that adding the social variables allows for some of the abstraction found in the endogenous perspective.

Merriam and Caffarella (2001:75) define constructivism in one sentence: “Constructivism, representing an array of perspectives, posits that learners construct their own knowledge from their experience.” The cognitive process of meaning making is emphasised as both an individual mental activity and as a social interactive interchange. These authors (2001:75) continue by saying that different aspects of the array are applied in “self-directed learning, transformational learning, experiential learning, situated cognition, and reflective practice”. Similarly, Schunk (2004:315) states that “learning in a constructivist setting is not allowing students to do whatever they want. Rather, the constructivist environment should create rich experiences that encourage students to learn”.

According to constructivist learning theories, knowledge is actively constructed by the individual and learning is an adoptive process based on the experience of the individual (Hendry, 1996; Mayer, 1992). Therefore, learning is not the mere absorption of knowledge and the learner is no longer a controlled respondent to stimuli as in the behaviourist approach (Jonassen, 1999; Perkins, 1991a) but is considered already to be a scientist (Solomon, 1994:16) who actively constructs learning while trying to make sense of the world through his/her own experiences, goals, curiosities and beliefs. According to Fosnot (1996:xi), “learning from [a constructivist] perspective is viewed as a self-regulatory process of struggling with the conflict between existing personal models of the world and discrepant new insights, constructing new representations and models of reality as a human meaning-making venture with culturally developed tools and symbols, and further negotiating such meaning through cooperative activity, discourse and debate”. Therefore, constructivism involves the active creation and modification of thoughts as the result of experiences that occur within sociocultural contexts.

2.2.4.1 Constructivist learning principles in teaching

Teacher educators obviously play a crucial role in the learning and development of student teachers. To achieve this as a constructivist educator, De Vries, Zan, Hildebrandt, Edmiaston and Sales (2002:17) identify the following seven principles of constructivist teaching:

- Establishing a cooperative, socio-moral atmosphere: A cooperative, socio-moral atmosphere is one in which respect is continually practised.

- Appealing to students' interests: A curriculum that responds to the interests of children is one that will provide meaningful opportunities for the construction of knowledge.
- Teaching in terms of the kind of knowledge involved: Different strategies of teaching are applied in respect of the different types of knowledge.
- Choosing content that challenges students
- Promoting students' reasoning
- Providing adequate time for students' investigation and in-depth engagement
- Linking on-going documentation and assessment with the curriculum: In constructivism classroom assessment has two forms, namely assessing learners' performance and assessing the curriculum.

To Sunal and Haas (2002:23), constructivist learning principles entail the following:

- Understanding the terms (such as alteration and continuity)
- Understanding the generalisations (the variations in a society and their associations)
- Developing high-level thinking skills (to develop social science-related skills, such as classification of different political events, critical thinking, decision making and problem solving)
- Developing attitudes and views in relation with the social world.

Educators undoubtedly play an important role in encouraging students to employ high-level thinking skills, to cooperate with other students, to construct their own knowledge about the learning terms, and to establish associations between the content of the subjects they have learnt in their courses and their personal experiences (Rice & Wilson, 1999:32). Meaningful learning thus encompasses effective construction or meaning-making processes.

At a very practical level, Honebein (1996:11) describes seven goals for the design of a constructivist learning environments:

- Provide experience in the knowledge-construction process
- Provide experience in and appreciation for multiple perspectives
- Embed learning in realistic and relevant contexts
- Encourage ownership and voice in the learning process
- Encourage the use of multiple models of representation

- Encourage self-awareness in the knowledge-construction process.

An essential concept for social constructivism seems to be that of ‘scaffolding’, which is a process of guiding the learner from what is currently known to what is to be known. Scaffolding permits learners to perform tasks that would normally be slightly beyond their ability without that assistance and guidance from teachers or knowledgeable others (Vygotsky, 1978).

Cooperative learning is a form of active learning in which small-group interactions lead learning through peer support and instruction. It also appears that if instruction uses cooperative learning properly, it might significantly improve students’ social skills or interpersonal skills. In addition, cooperative learning can be seen to have a close connection with constructivist learning theories. Cooperative learning therefore appears to be an important methodological tool in the constructivist classroom. Cooperative learning also seems relevant to this study as it is about active forms of learning and exploring learning. The following section provides a brief overview of cooperative learning.

2.2.5 Cooperative learning

Cooperative learning can be characterised as a social process in which knowledge is acquired through the successful interaction between group members (Cohen, 1994; Weidner, 2003:33). To Slavin (1995:2), cooperative learning refers to a variety of teaching methods in which students work in small groups to help one another, to discuss and argue with one another, to assess one another’s current knowledge and to fill in gaps in one another’s understanding. Bitzer (in Gravett & Geysler, 2004:43) cites Johnson and Johnson (1991), Hertz-Lazarowitz and Miller (1992) and Hergenhahn and Olson (1993) to indicate that there is wide agreement that cooperative learning can be described as the utilisation of (usually smaller) learner groups in order to enable students to maximise their own learning and that of others. Cohen (1994:15) concurs with this view when pointing out that discussion within learning groups promotes more frequent oral summarising, explaining and elaborating on what one knows. Moreover, cooperative learning results in a greater ability to take the perspective of others in the group setting, while one’s thinking is monitored by others and it has the benefit of both the input of other people’s thinking and their critical feedback.

Cooperative learning is closely related to constructivist learning theories. Constructivism is based on the assumption that a student’s cognition develops through interaction between the

individual and its environment. Wolff (2003:324) asserts that the construction of knowledge is thus led by assimilation and accommodation and is a highly individual process.

According to the constructivist concept, the following two main principles are important for efficient learning: *self-organisation or autonomy* and *cooperation* (ibid.). On the one hand, learning can only be successful if the learners feel responsible for their own learning and personal learning performance. On the other hand, however, Newman and Holtzman (1993:77, cited in Jacobs & McCafferty, 2006:22) point out that Vygotsky's proposed strategies are essentially cooperative learning strategies that point towards the cooperative and joint responsibility for learning performance. Vygotsky created heterogeneous groups of students providing them not only with the opportunities but the need for cooperation and joint activities by giving them tasks that were beyond the developmental level of some, if not all of them. Under such circumstances, students create a zone of proximal development for each other. O'Malley and Chamot (1990:139) are of the opinion that cooperative learning activities also offer the opportunity to develop and practice strategies for learning and using language. They maintain that, especially social-affective strategies such as asking for help and cooperation are fostered in cooperative settings.

Therefore, autonomous learning and the ability to plan seem to control and evaluate the learning process. Huber (2004:4) echoes the idea expressed above when he remarks that cooperative learning could also be highly motivating to the students in that it is able to strengthen their confidence in their own abilities. If learners realise that their contributions are not only accepted in a group but even necessary and useful to the aim of the group, their self-esteem may increase (Huber, 2004:4). Providing students with more authority to make their own decisions, the teacher also prepares the students for their roles in the adult world. Cohen (1994:19) concurs with this idea in arguing that "they will have more of a sense of control of their own environment, and they will learn to be active citizens". The following five elements have been identified as important aspects or elements of cooperative learning (Gilles, 2007:4; Johnson *et al.*, 2006; Weidner, 2003:34):

- Individual accountability
- Social skills
- Face-to-face interaction
- Positive interdependence
- Group processing.

Individual accountability involves students' understanding that they will be held accountable for their individual contributions to the group, that freeloading will not be tolerated, and that everyone must contribute.

Social skills refer to interpersonal and small-group skills such as effective communication that is required to cooperate successfully.

Face-to-face interaction involves working in small groups in which students are able to see each other when interacting.

Positive interdependence among students is established when everybody understands that each member's contribution is important in helping the group to achieve its goal.

Group processing refers to the assessment of cooperative learning. It can be described as a form of formative assessment that focuses on students' feedback on the learning process, including the students' reflection on what they still need to do to accomplish their objectives.

The next paragraphs explore collaborative learning, since it is also a group-based instructional method in which students work together in small groups towards a common goal. Collaborative learning represents a significant shift away from the typical teacher-centred classroom. Collaborative learning does not simply mean sharing a workload or reaching consensus, but permits learners to develop, compare and understand multiple perspectives on an issue.

According to Turoff (2000:1), collaborative learning is a process that stresses active participation within groups of students and the educator. Learners develop their knowledge while sharing ideas, reflecting and interacting in learning groups. In this case, the role of the facilitator is to guide and support learners to take responsibility for attaining group objectives and achieving learning outcomes. Bitzer (cited in Gravett & Geysler, 2004:51) identifies four functions of the facilitator that are essential for facilitating in co-operative small groups. These include the following: (1) "structuring group activities, (2) fostering positive interdependence in groups, (3) intervening in cooperative groups and (4) managing feedback". To utilise cooperative learning strategies effectively in higher education, facilitators should be conscious of the aforesaid role of a facilitator.

2.2.6 Collaborative and cooperative learning

As is evident from Table 2.3, collaborative and cooperative learning have so much in common that the researcher would suggest that the definition of collaborative learning also be applied to cooperative learning. *Collaborative learning* is broadly defined as “a situation in which two or more people learn or attempt to learn something together” and more specifically as joint problem solving (Dillenbourg, 1999:1). Much of the research on collaborative and cooperative learning is rooted in the work of Piaget and Vygotsky (Dillenbourg, Baker, Blaye & O’Malley, 1996).

Table 2.3 Similarities and differences between cooperative and collaborative learning

Similarities	
Learning actively is more effective than passive learning.	
The educator is a facilitator of learning, rather than a transmitter of information.	
Facilitator and students share equally in the learning and teaching experience.	
Both modes of learning develop higher-order thinking skills.	
Responsibility for learning is accepted by both the individual student and the group in which the student finds him/herself.	
Articulating ideas in a small group enhances a student’s ability to reflect on his/her assumptions and thinking processes.	
Developing social and team skills are fundamental aspects of critical learning outcomes.	
Students’ success and retention of learned material are enhanced by a supportive small-group learning environment.	
Both modes of learning acknowledge the value of diversity and/or harnessing it in the learning process.	

Differences	
Cooperative learning	Collaborative learning
Is usually pre-structured	Is usually loosely structured
Involves the demarcation of authority by facilitators	Leaves authority entirely to the group
Requires learners to be trained to function properly	Provides only broad guidelines to learners

Achieves outputs through task completion	Achieves outputs mainly through extensive projects
Has the potential to benefit all learners	Could benefit relatively sophisticated learners only

Source: Bitzer (1999:12)

In the next section another form of active learning is discussed, namely problem-based learning.

2.2.7 Problem-based learning

Problem-based learning (PBL) is based on active, interactive and collaborative learning, which allows the educator the rare opportunity to observe student learning. Problem-based learning is more inductive. Problem-based learning is relevant to the study because it is a strategy that has the potential to promote active learning of students and thus needs further exploration. It is a student-centred approach that refers to learning opportunities that are relevant to the students in that they explore learning through questioning. It has a variety of positive benefits for students, among which are attitudes towards learning. PBL is an instructional method in which relevant problems are introduced at the beginning of the instruction cycle and used to provide the context and motivation for the learning that follows. PBL shifts the teacher’s role from “dispensing information to guiding the construction of knowledge by his or her students around an initially ill-defined problem. Students refine the problem, develop research questions, investigate the topic using a wide variety of primary source materials and work out a variety of possible solutions before identifying the most reasonable ones” (Johnson, 2009:8).

Learning can only take place when students are actively involved in what they learn. Building on that principle, Biggs (2003:1) states that constructive alignment is an approach to design a curriculum that optimises the conditions for quality learning. He contends that students should construct meaning through relevant learning activities; thus what is important is what the student does. Alignment means that the teacher provides a learning environment or context that supports the learning activities appropriate to achieving the desired learning outcomes (Biggs, 2003:1). PBL is a student-centred approach that engages students in exploring important and meaningful questions through a series of investigation and collaboration (Krajcik, Czerniak & Berger, 1999). The main purposes are to expose students

to experiential learning and to provide an overview of the activities involved in valuation profession to them.

According to Blumenfeld, Soloway, Marx, Krajcik, Guzdial and Palincsar (1991:369), PBL is a comprehensive, deep-learning approach to classroom teaching and learning that engages students in the investigation of authentic problems. In support of the view expressed above, Biggs (2003:2) argues that educators have to adjust teaching decisions to suit the subject matter, the available resourcing, the students, and the individual strengths and weaknesses of a teacher. In agreement with this idea, Haggis (2003:89) maintains that transmission-based learning models are problematic and new ways are needed to conceptualise learning in higher education in order to become truly accessible to the widest range of lifelong learners. Teaching is not a matter of transmitting, but requires students to construct knowledge with their own activities, building on what they already understand (Biggs & Tang, 2007). To make PBL effective, teachers play a crucial role in motivating students and creating a classroom environment conducive to students' learning (Yam & Burger, 2009).

2.2.7.1 The benefits of problem-based learning

Problem-based learning improves students' motivation and gives students a sense of satisfaction (Blumenfeld *et al.*, 1991; Green, 1998; Hadim & Esche, 2002). Krajcik *et al.* (1999) point out four additional benefits of PBL: (1) students develop an integrated understanding of materials; (2) students learn to collaborate with one another in solving problems; (3) it promotes independent learning as students assume greater responsibility for their learning; and (4) as PBL involves various types of tasks, it satisfies students' different learning needs.

PBL thus has the potential to increase deep learning as students have to acquire and apply concepts and principles in solving authentic problems. It also promotes critical and proactive thinking in that the students have to formulate plans and evaluate solutions (Blumenfeld *et al.*, 1991). PBL moreover moves students from passive learning to active learning, and it is able to improve knowledge retention and the learners' "ability to apply prior knowledge in creating their final products" (Felder *et al.*, 2000). Besides enhancing students' participation in the learning process (active and self-learning), PBL also helps to improve communication and collaborative skills that will be important in later life (Hadim & Esche, 2002).

2.2.7.2 *The challenges of problem-based learning*

Despite the numerous benefits of a PBL approach, it presents several challenges to teachers. Frank, Lavy and Elata (2003), and also Helle, Tynjala and Olkinuora (2006) indicate three such challenges: (1) teachers' content knowledge; (2) students' lack of experience in PBL and their preferences for a traditional, structured approach that emphasises passive learning; and (3) the organisation and administration of PBL that can be very time-consuming.

I concur that PBL presents teachers with several challenges and I have come to realise that because of these challenges, the educator has to be supported by the institution's management in creating conducive learning environments. Problem-based learning is relevant to this study because it engages students in project-based learning activities so as to solve challenging problems of an aesthetic nature. The goal of problem-based learning is to engage students in learning. E-learning is briefly discussed next. The importance of e-learning is that it is student-centred which focuses on students' specific needs. It concurrently empowers students of diverse background to equally access the best learning resources.

2.2.8 E-learning

E-learning is relevant to the study because it apparently provides numerous active learning benefits to students. Students use a variety of educational resources, among which are learning resources such as databases or course content that are accessed online via the Internet.

Change continues in the field of education as a result of the influence of technology and certainly models of instructional design are not exempt from this influence (Hakkinen, 2002:463). Lefoe (1998:462), when referring to web-based courses, contended that at that time, the current instructional design models did not provide effective strategies for designing constructivist learning environments. She qualifies this statement by further noting that good instructional designers have always moved beyond the models by adapting and manipulating them for a specific content. Gustafson and Branch (1997:82), in referring to today's classroom, noted that with the emergence of online learning, instructional developers would need to move away from developing teacher-centred instruction and focus more on the development of environments and conditions that facilitate student-centred, guided learning. This student-centred approach has been attributed to a mode of thinking and has been promoted because of technological advancements.

In the next section, the concept of active learning is discussed.

2.3 THE CONCEPT OF ACTIVE LEARNING

Active learning is a buzz phrase that captures the teaching techniques promoted by learner-centred as opposed to content-centred instruction (Halonen, Brown-Anderson & Mckeachie, 2002). Both Warren (1996) and Gibson (1998:79) maintain that active learning empowers students to take primary responsibility for their education (student-centred), although requiring faculty to relinquish some control to the student to encourage their learning path. According to Meyers and Jones (1993:6), active learning is derived from two basic assumptions. The first is that learning is by nature an active endeavour and the second is that it involves the fact that different people learn in different ways. Active learning is “anything that involves students in doing things and thinking about the things they are doing” (Bonwell & Eison, 1991:2). The same authors (1991:2) assert that some characteristics of active learning are that students are involved in more than listening and that less emphasis is placed on transmitting information and more on developing students’ skills. Students are also more involved in higher-order thinking (analysis, synthesis, evaluation), they are engaged in activities (for example reading, discussing, writing) and greater emphasis is placed on students’ exploration of their own attitudes and values. Meyers and Jones (1993:6) maintain that active learning involves providing students with opportunities to talk meaningfully and to listen, write, read and reflect on the content, ideas, issues and concerns of an academic subject. Along the same lines, Mantyla (1999:19) argues that active learning is a key element in the learning process and that most adult-learning models view interaction (active learning) as a crucial component. In an effective learning environment that incorporates active learning strategies, “greater emphasis is placed on student exploration of their own meaning, attitudes, and values” (Mantyla, 1999:19).

Cameron (1999:99) asserts that active learning involves students in the learning process rather than seeing them as passive recipients, while Cameron (1999) further states that active learning requires of students to *use* content knowledge, not just acquire it. Therefore, the purpose of active learning is to improve students’ comprehension, retention and overall learning. Silberman (1996:ix) maintains that students learn best by doing. According to this author, active learning incorporates a variety of activities to get the brain working. This means that students need to hear, see, question, discuss, use and teach the content.

To Newmaster, Lacroix and Roosenboom (2006:103-113), active learning involves student-centredness that “places the student in the driver’s seat”. Learner-centredness maximises student learning by an “*authentic learning*” mechanism that directly engages the student through intrinsic inquiry, thereby allowing the students to take ownership of the products of their education provided they are applied to the benefit of others in socially consecutive ways.

The Committee on Developments in the Science of Learning (Bransford, Brown & Cooking, 2000) refined this broad definition to emphasise the importance for students to control their learning, while Mayer (2004) highlighted the importance of structured discovery. What makes active learning fundamentally active is the cognitive process required to find patterns in materials provided, to organise these patterns into meaningful clusters, to understand under what conditions this knowledge is useful and to retrieve it fluently (Bransford *et al.*, 2000). Active learning thus goes beyond the simple availability of information to facilitate students’ self-discovery of knowledge (Mathie *et al.*, 1993) and consequent performance (Butler, Phillmann & Smart, 2001; Lake, 2000; Lonka & Ahola, 1995; Schwartz & Bransford, 1998). Mckeachie (2002) argues for designed discussions as the prototypical method for active learning, although others have expanded this operationalisation to include visually based instruction, cooperative learning, debates, drama, role playing, simulations, games and peer teaching (Sivan, Leung, Woon & Kember, 2004). This is supported by Bonwell and Eison (1991) who suggest that learners should work in pairs, discuss materials while role playing, debate, engage in case studies, take part in cooperative learning or produce short written exercises. According to Bonwell and Eison (1991:22), active learning is enhanced by “interpersonal behaviours”, which promote interpersonal rapport by projecting warmth, openness, predictability and a focus on student-centred teaching. Such interpersonal behaviours include:

- Being strongly interested in students as individuals and highly sensitive to both verbal and nonverbal cues
- Acknowledging the importance of students’ feelings by encouraging students to ask questions and to express their opinions
- Communicating the relevance and importance of the materials to the student.

These seem useful concepts to apply to teaching and learning in general because the goal is to achieve an open, two-way line of communication in which students feel comfortable enough

to ask questions and to communicate their learning needs. Utilisation of active learning sometimes requires teachers to learn new skills and techniques that may differ from what they needed for a traditional lecture-style teaching method (Bonwell & Eison, 1991:63).

Likewise, educators may have to develop skills not otherwise used in prescriptive advising. For example, the active learning techniques for more effective questioning include (Bonwell & Eison, 1991:28):

- Stating questions clearly and specifically
- Considering students’ ability when determining the level of questions
- Maintaining a logical and sequential order of the questions
- Encouraging elaboration on a response and/or rephrasing a student’s response to ensure the adviser has correctly understood him/her.
- Allowing adequate time for a student to answer a question
- Encouraging the student to ask questions.

Incorporative active learning techniques allow individual teachers to customise these techniques to the particular needs of the students they serve. Chickering (1994:50) deems the fundamental purpose of advising as being to help students become effective agents for their own lifelong learning and personal development. Teachers’ relationships with students – the questions they raise, the perspectives they share, the resources they suggest, the short-term decisions and long-range plans that will help students think through – should all aim to increase their capacity to take charge of their own existence.

Active learning means students are actively engaged rather than passively collecting information. As a way of defining active learning, Nist and Holschuh (2000:31) discuss the differences between active and passive learning by examining seven characteristics of active learners and contrasting them with characteristics of passive learners.

Table 2.4: Differences between active and passive learners

	Active learners	Passive learners
Reading	Read to understand and remember	Read but may not understand or remember
Reflecting and thinking critically	Make connections between what they already know and	Do not think about and process information that they

	new information gathered from texts, lectures and studying with peers	read and hear
Listening	Are engaged during lectures and take organised notes	Are not attentive during lectures and take unorganised or incomplete notes
Managing time	Put in quality study time	May put in plenty of study time, but it is not quality time.
Getting assistance	Realise when they need help and seek it early	Seek too little help too late
Accepting responsibility	Understand their responsibility for their own learning; analyse weak performance if it occurs and change their study habits accordingly	Blame others for poor performance, approach every course in the same way and fail to learn from their mistakes
Questioning information	Question new information that is not in accordance with what they already know	Accept without question what they read and hear in lectures as true

Source: Nist and Holschuh (2000:31).

Table 2.4 indicates some of the differences between active learning and passive learning. It should be noted that active learning needs to be understood as an active investment in one’s future knowledge. This means that active learning equips students with the necessary skills for future development in their learning. Active learning has to do with mental transformation and manipulation of materials. Whereas passive learning is boring and time consuming, active learning can be more attractive for students than passive forms of learning because they are able to become more motivated and interested when they have a say in their own learning and when their mental activity is challenged. Active learning helps students to learn by practising how to learn and questioning the information at their disposal.

In the next section, assessment is briefly discussed. Assessment seems to be an extremely important element in student learning. It suggests to facilitate learning by giving students

feedback about their performance and point to where they can improve their knowledge and skills.

2.4 ASSESSMENT OF LEARNING

This section firstly conceptualises the concept *assessment*; secondly it discusses the purpose of assessment and thirdly examines the relationship between types of assessment and learning in higher education. For the purpose of this study, exploring student learning through the lens of assessment considerably widened the researcher's understanding of students' perceptions of learning through assessment practices.

2.4.1 Defining assessment

There are different ways in which assessment can be defined, depending on the purpose of that definition.

One purpose of assessment is to report on students' achievements and also on improved teaching by expressing the goals of the curriculum more clearly. It involves measuring student learning and diagnosing misunderstandings in order to help students to learn more effectively (Ramsden, 2003:177). According to Struyven, Dochy and Janssens (2005), students' perceptions on assessment have a considerable impact on their attitudes to learning, and it should be used to encourage deep learning to achieve the intended learning outcomes (Ramsden 2003:177). Rust (2002:150) argues that one of the most important influences on students' learning approaches is the assessment strategies used. Students are more likely to use deep learning if they are able to see the relevance and importance of what they are required to do (Rust, 2002). Therefore, assessment tasks should reflect realistic problems whenever possible to encourage deep learning (Orrell, 2008; Ramsden, 2003).

Allen (2004:9) contends that assessment involves the use of empirical data on student learning to refine programmes and improve student learning. The definition of assessment advanced by Allen is in agreement with Palomba and Banta (1999:9) who define assessment as the systematic collection, review and use of information about educational programmes undertaken for the purposes of improving student learning and development. Suskie (2004:30) considers assessment as an ongoing process of:

- Establishing clear, measurable expected outcomes of student learning

- Ensuring that students have sufficient opportunities to achieve those outcomes
- Systematically gathering, analysing and interpreting evidence to determine how well student learning matches our expectations
- Using the resulting information to understand and improve student learning.

2.4.2 Purposes of assessment

Reviews of the role and development of assessment have varied in the precise number of purposes identified for assessment. Pellegrino, Chudowsky and Glaser (2001:10) identify three categories of purposes of assessment, namely formative, summative and evaluative ones.

In respect of formative purposes, assessment aims to assist learning. This type of assessment includes classroom assessment, (such as classroom projects, quizzes, feedback from computer-assisted instruction, classroom observation, written work, homework, and conversations with and among students). It provides very specific information about students' strengths and their difficulties with learning.

In summative assessment the aim is to generate data for the assessment of individual achievement. This type of assessment is used to determine whether a student has attained a certain level of competency after completing a particular phase of education.

Assessment to evaluate programmes also falls under the category of summative assessment. Gips (in DoE 1994:13), DoE (1997) and also Booysen and Le Roux (1996), suggest six purposes of assessment. These are: (1) diagnostic; (2) therapeutic (feedback) – to improve teaching and learning; (3) for promotion purposes; (4) baseline assessment (to establish previous knowledge); (5) assessment for accountability; and (6) assessment for development.

Chalmers and Fuller (1996:41) also propose two major functions of assessment. The first function is to enable institutions to grade students and to certify that they have met course requirements by using formal assessment tasks, for example, tests, examinations, assignments and projects. The emphasis is on determining how much students have learned and making a summative judgment about the adequacy of their performance. The second function is to support student learning by using less formal assessment tasks aimed at determining the quality of students' learning, providing students with feedback and suggesting ways in which they can improve their learning and understanding. These two authors propose that when

students are being assessed to support their learning, it does not matter whether they demonstrate some lack of understanding or skill, for this provides the teachers and students with an indication of an aspect of learning that needs attention (see also Boud, 1990:102).

Similarly, Sambell and McDowell and Brown (1998:108) list the main purposes of assessment as follows:

- To help learning: Assessment should be a means of establishing progress during a course, to motivate student learning, to give feedback to students and to enable them to consolidate their learning at set points throughout their studies.
- To certify what has been learnt: Assessment must verify what a student has achieved at the end of a course or stage and determine whether they are fit to enter graduate employment or in a practice in a professional area.
- To predict future performance: Assessment results may be used as selection criteria to identify likely success and suitability for employment, further study or research.
- To indicate educational effectiveness: Assessment results can provide lecturers with feedback on the effectiveness of their teaching or may be used to demonstrate that educational provision has met required standards.
- To transmit social norms and values: It has been proposed, for example, that competitiveness within the educational assessment system reinforces the idea that competitiveness is a quality that is highly valued in society and thus assessment acts as a “*preparation for life*”.

2.4.3 The role of assessment in higher education

The review of the literature suggests broad agreement concerning the primary purposes of assessment in most formal educational settings. These have been defined by Luckett and Sutherland (2000:101) (see also Brown, 2001:6; CHE, 2004:6; SAQA, 2001) as:

- Diagnostic assessment, where the purpose is to determine whether a student is ready to be admitted to a particular learning programme and what “remedial action may be required to enable a student to progress” (Luckett & Sutherland, 2000:101).
- Formative assessment – used to provide feedback on progress in a way that motivates students – improves learning, consolidates work completed and profiles what has been learnt.

- Summative assessment, which establishes levels of achievement at the end of the programme and provides a grade that gives an indication of employability and future performance and a licence to practice.
- Quality assurance, which provides staff with feedback on the impact of teaching and learning activities, evidence of the degree to which programme outcomes have been achieved, and a means of monitoring the effectiveness of the learning “environment and the quality of an educational institution over time” (Lockett & Sutherland, 2000:101).

While the broad classification outlined seem self-evident it is unlikely that a process as complex as assessment can be so neatly packaged. Instead, I would concur with Ramsden (1992:187) who asserts that assessment is not a world of right or wrong ways to judge or diagnose, of standards versus improvement, of feedback versus certification – it is in reality a human and uncertain process where these functions generally have to be combined in some way. For example, while diagnostic assessment is generally considered to happen prior to a programme’s commencement, its contribution continues as courses unfold and teachers and students identify problems requiring individual and collective remedial action. Tasks intended to have formative or summative functions may also serve diagnostic purposes. Equally, on programmes where summative assessment is continuous and ongoing, assessment tasks cannot avoid having a formative influence. Some theorists contend that conflating formative ambitions with high-stakes summative tasks may leave students disinclined to take risks (Biggs, 1999:143; Lockett & Sutherland, 2000:101).

Gravett (1996:81) also is of the view that assessment procedures deserve much more attention than is currently the case because assessment is fundamental to teaching and learning. In addition, Bitzer (1999:2) points to the principles of sound assessment by summarising the values that Brown, Race and Smith (1996) believe should underpin assessment. These are as follows:

- Assessment should be based on an understanding of how students learn and should play a positive role in the learning experience of students.
- Assessment should accommodate the individual differences of students. Therefore a diverse range of assessment instruments and processes should be employed, accommodating and encouraging student creativity and originality.

- The purposes of assessment should be clearly explained. Staff, students and “the outside world” need to be able to see why assessment is being used and the rationale for choosing each individual form of assessment in its present form or context.
- Assessment instruments and techniques need to be reliable and consistent. Marks or grades should be allocated with the maximum degree of objectivity, independent of the assessor of the work.
- All forms of assessment should allow students to receive feedback on their learning and their performance. Assessment should be a developmental activity.
- Assessment should be an integral component of programme design. Teaching and learning experiences should be appropriate. Student learning should not be driven by an overload of assessment requirements nor should teaching be impaired by burdens of assessment tasks.
- Assessment criteria need to be understandable, explicit and public. Students need to be able to tell what is expected of them in each form of assessment they encounter.

A change in the assessment practices along the lines of the principles of sound assessment discussed above apparently has the potential of improving the quality of the curriculum and of student learning.

Regardless of which interest informs the curriculum there is a comprehensive body of research to support Brown, Bull and Pendlebury’s opinion (1997:6 in Lockett & Sutherland, 2000:98), arguing that assessment defines for students what is important to learn, what counts as credit for learning, how they will spend their time for learning and how they will see themselves as learners. Apparently, if teachers want to change student learning they have to change the methods of assessment. Light and Cox (2001:173) contend that there seems to be a common recognition that students often derive more understanding of a course from the demands of its assessment systems than from tutors and course handbooks. According to (Boud, 1995:36), “[L]earning is a function of both teaching and the context in which it occurs ... and how it is interpreted by students and the action which they take as a result of these interpretations”.

2.4.4 Self-assessment

Self-assessment is pertinent to study since, it play important role in persuading students to be independent in their learning and this, in turn, makes students actively involved in their learning.

Gravett (1995:9) regards self-assessment as a viable tool for effective learning because it provides learners with an opportunity to take responsibility for their own learning and it gives them greater ownership of the learning they undertake. Gunter (1990:ii) argues that learners should be taught to assess their own work critically as this does not come ‘naturally’.

Sambell, McDowell and Brown (1998:349) state that self-assessment refers to people being involved in making judgements about their own learning and progress, which contributes to the development of autonomous, responsible and reflective individuals. This position is supported by Boud (1992:5) who defines self-assessment as the involvement of students in identifying standards and/or criteria to apply to their work and the making of judgements about the extent to which they have met these criteria. Rolheiser and Ross (2000:3) define self-assessment as “students judging the quality of their work, based on evidence and explicit criteria for the purpose of doing better work in the future”. This means that students examine their own work based on clear criteria provided. Montgomery (2001:5) provides a related definition of self-assessment as being: “... an appraisal by a student of his or her own work or learning processes”. This entails that students assess their own work. Blatchford (1997:2) echoes the idea expressed above when he remarks that “self-assessment as a specific element of student self-concept, that is academic achievement, involve(s) judgments of one’s own attainment in relation to other children”. This implies that self-assessment is a more normative judgment, which some may see as contrary to the concept of self-assessment.

Gronlund and Cameron (2004:14) provide another definition of self-assessment in the context of teachers’ classroom assessment practices. In their definition they stress the importance of formative assessment where the purpose is to “monitor learning progress and to provide corrective prescriptions to improve learning”. From the perspective of meaningful student learning, Kitsantis, Reisner and Doster (2004) propose that self-evaluative judgments (self-assessments) are closely linked to improved achievement outcomes and that performance predicts motivation and persistent results from a focus on process goals and procedures of higher levels of self-efficiency. This opinion upholds that of Black and William (1998) who maintain that self-assessment is an essential component of formative assessment if it is to be

used to improve student learning. McDonald and Boud (2003:214) likewise portray self-assessment as a skill to be developed in students in higher education, stating that training in self-assessment may have a positive effect on students' performance. Andrade and Du (2007:160) offer a helpful definition of self-assessment that focuses on the formative learning that it is able to promote: "Self-assessment is a process of formative assessment during which students reflect on and evaluate the quality of their work and their learning, judging the degree to which they reflect explicitly stated goals or criteria, identify strengths and weaknesses in their work, and revise accordingly." This means that making judgements about the progress of one's own learning is integral to the learning process. Boud (1995:11) contends that self-assessment with its emphasis on student responsibility and making judgments is a necessary skill for lifelong learning.

Bruce (2001) suggests that self-assessment is a means of operationalising the current focus on standard-based assessment. To Reynolds and Trehan (2000:270), participative assessment encompasses assessment approaches in which "students and tutors share, to some degree, the responsibility for making evaluations and judgment's ... gaining insights into how such judgments are made and finding appropriate ways to communicate them". Within the broader definition of approaches that actively engage students in their own assessments, self-assessment is defined by individual learners "ultimately [making] judgments about what has been learned" (Boud, 1999:200). It does not exclude the possibility of others having an input in this process (Boud, 1999:200). Similarly, Baldwin (2000:455) maintains that while student autonomy and ownership of their individual work is important, self-assessment, like learning, can occur only within a social environment.

2.4.5 Peer assessment

Peer assessment is relevant to the study because it is an active learning approach that requires students to engage in performances of assessment. ..

Van den Berg, Admiraal and Pilot (2006:19) delineate peer assessment as a process in which students assess the quality of their fellow students' work and provide each other with feedback. As such, peer assessment involves teaching and learning from each other. Peer assessment is one of the key terms in this study as it is seen as apparently contributing to encouraging meaningful learning that emphasises the active, the constructive and the cooperative aspects of learning.

Peer assessment is particularly useful for supporting reflective practice in higher education because of its focus on dialogue and shared interpretation of teaching and learning between staff and students (Stefani, 1998:339). This means that students learn from one another and use the feedback provided by peers to inform their own learning.

According to Topping (1998:249), peer assessment is an arrangement in which individuals consider the amount, level, value, worth, quality or success of the products or outcomes of the learning of others who share a status similar to their own. This point of view is also supported by Falchikov (1995:175) who defines peer assessment as a process in which individuals rate their peers by agreeing on appropriate criteria and then accurately applying the assessment. If conducted appropriately, peer assessment can provide numerous benefits to learners. It has the advantage of helping students to examine their learning progress critically and through this ‘monitoring process’ they come to understand how better to examine their learning (Reiders & Lazaro, 2007:1–13).

Teachers use peer and self-assessment to enhance learning. Peer assessments are usually intended as formative assessments early in the learning process (Johnson, 2004). Johnson (2004) identifies four purposes of peer and self-assessment:

- To increase student involvement in the learning process (for example, students assume teaching responsibilities)
- To increase social interactions and trust in others
- To facilitate individual feedback
- To focus students on the process rather than the product.

In addition, peer assessments used as formative evaluations are especially useful with group instruction and can both enhance the learning experience and positively influence student achievement (Johnson, 2004). Gagnon and Collay (2001) agree with these ideas when they assert that both peer- and self-assessment practices are intended to empower students to make decisions (for example, construct knowledge) that contribute to the individual’s learning experience. Furthermore, peer and self-assessment are intended to emphasise individual and interpersonal learning and promote the power of reflective processes and shared reflection. Shapiro (2003:329) contends that, from an educational perspective, both peer and self-assessment are based on grounded constructivist philosophies in that “whatever a person discovers himself is what they really know”. Based on the above statement one can conclude

that peer and self-assessment are limited to formative assessment and not used in summative student assessment.

Brown, Rust and Gibbs (1994), Zariski (1996) and Race (1998) outline some of the potential advantages of peer assessment for students as follows:

- Giving a sense of ownership of the assessment process and improving motivation
- Encouraging students to take responsibility for their own learning, developing them as autonomous learners
- Treating assessment as part of learning, so that mistakes are opportunities rather than failure
- Practising the transferable skills needed for lifelong learning, especially evaluation skills
- Using external evaluation to provide a model for internal self-assessment of a student's own learning
- Encouraging deep rather than surface learning.

2.4.5.1 Disadvantages of peer assessment

Students often feel ill-equipped to undertake the assessment and they may be reluctant to make judgments regarding their peers. Concerns have also been raised about the validity and reliability of the marks given by students due to lack of expertise. It has been noted that students may have a tendency to award everyone the same mark. Potential bias, discomfort with the extra responsibility, lack of formal training and the perception that it is the job of the tutor to do the assessing (Cassidy, 2006) are all issues that could influence assessment marking adversely, and could lead to a central tendency in granting marks, namely giving 'average' ratings for peers (Topping, 2005) regardless of the quality of their work. The most important disadvantage stressed in the literature is potential bias.

2.4.6 Assessment for learning in active learning

Taking into consideration how assessment can enhance student learning, Ramsden (1992:34) has identified five categories of student learning that comprise the following:

- *Learning as a quantitative increase in knowledge:* Learning is acquiring information or "knowing a lot"

- *Learning as memorising*: Learning is storing information that can be reproduced
- *Learning as acquiring facts, skills and methods that can be retained and used as necessary*
- *Learning as making sense or abstracting meaning*: Learning involves relating parts of the subject matter to teach each other and relating it to the real world.
- *Learning is interpreting and understanding reality in a different way.*

2.4.7 Participative assessment and enhancing feedback to students

It is clear from a review of research in the field of higher education that there are multiple ways in which participative assessment can be used to enhance both the quality and the quantity of feedback students receive on the completion of assessment tasks. These can be broadly broken down into two main approaches namely, reciprocal peer assessment – where students take turns in assessing one another’s work, and secondly, approaches that involve both teachers and peers (Price, O’Donovan & Rust, 2007). An important feature of such approaches is that they all involve an element of self-assessment in which students draw on feedback they have received in assessing their own performance and learning. Such approaches are in keeping with views expressed by both Boud (1995:15) and Gibbs (2003:127) who state that regardless of who is involved in the assessment process, the objective should be to develop the learner’s own ability to self-assess. In this respect the literature seems to support the use of combining peer- and self-assessment approaches.

Numerous theorists contend that there is a direct link between the skills students develop as peer assessors and the development of their self-assessment skills. Liu and Carless (2006:280) argue that there is a significant overlap in the skills sets required for peer assessment and self-assessment, while Boud (1995) contends that the involvement of peers in assessment processes can provide students with important feedback on which they can draw in self-assessment. Moreover, the reciprocal nature of peer assessment means that students not only benefit from the insights of their peers, but they also derive valuable benefits from giving feedback to peers. Students need to spend time enhancing their understanding of task outcomes and assessment criteria (Liu & Carless, 2006:280). Students get to see how another student has approached his or her work and to consider alternative ways of approaching tasks (Fallows & Chandramohan, 2001:232). In providing feedback on problem areas students can identify errors in their own work and take steps to correct these in the future (Fallows &

Chandramohan, 2001:4). Students get to place themselves in the shoes of assessors, which allows them to deepen their understanding of the assessment process.

An additional feature that many of these studies in the field of higher education have in common is the view that feedback and grading should be kept separately, particularly when it comes to involving peers in commenting on one another's work. Liu and Carless (2006:280) differentiate between the terms *peer feedback* and *peer assessment*, suggesting that *peer feedback* implies the provision of "rich detailed comments but without formal grades", while *peer assessment* "denotes grades irrespective of whether comments are also included". They postulate that peer feedback offers greater potential for learning when students do not have to consider the question of grades. This opinion is shared by Boud (1995:201) who asserts that grades can be "descriptive of cooperation between students and lead to jealousies and resentment". These viewpoints do not, however, propose that students should be excluded from the grading process, but rather that the formal judgment and assignment of marks should be left to educators.

In addition to the potential benefits mentioned, the literature suggests various other ways in which participant assessment may play a role in students' learning by involving them in assessment communities. These benefits encompass the following:

- *Ensuring that feedback is timely*: Gibbs (2006:126) proposes that students are far more likely to pay attention to feedback if it is given soon after the submission of work. By involving peers in reciprocal feedback situations, teachers can ensure the immediacy of feedback. Such feedback can precede the submission of finished products and thus impact on the learning process itself.
- *Ensuring feedback is understood*: Bloxham and West (2004:729) postulate that subject experts often experience difficulty in expressing feedback in a way that is comprehensible to students. The straightforward way in which students seem to understand and articulate their feedback can be a powerful aid in enhancing understanding.
- *Increasing the quantity and frequency of feedback*: Increasing class sizes and work communities can limit the amount of time teachers can dedicate to students and the quantity of feedback students receive (Race, 2001:7). Gibbs (2003) maintains that many of the learning outcomes expected in higher and professional education today relate to skills and for these to develop students need continuous practice and to

receive regular feedback as they progress. Notably, neither of these writers suggests that peer assessment should replace teacher feedback, but rather that it is a valuable supplement.

- *Encouraging continuous dialogue about criteria, outcomes and learning:* Liu and Carless (2006:281) propose that the process of articulating and expressing to others what we know and understand “[can lead to] an evolving understanding of increasing complexity”. Involving students in face-to-face feedback situations can enhance learning, while simultaneously encouraging them to engage jointly with criteria and standards (Fallows & Chandramohan, 2001:234; Liu & Carless, 2006:287). Such processes also prepare students for encounters they are likely to face in their professional lives.
- *Encouraging students to pay attention to feedback:* Involving students in processes in which they are expected to compare and contrast their own assessments with those provided by teachers can ensure that students engage deeply with the feedback received from both peers and teachers. According to Gibbs and Simpson (2004-05:23), there is evidence that students frequently focus only on the marks they have been awarded and ignore the carefully crafted feedback teachers provide. However, Race (2001:14) suggests that “students who have engaged conscientiously with self-assessment and feedback from a tutor ... take feedback very seriously”.

The literature referenced above makes it clear that formative assessment can be improved and that an important part of this improvement would be the quality of feedback and the use of constructive strategies. There is therefore strong evidence that feedback makes a difference to student achievement. Nicol and Macfarlane (2004) in their exploration of how assessment may be used effectively to promote student learning, found that assessment can generate feedback information that can be used by students to enhance learning and teaching. They used the Black and William (1998:3) review to identify broad principles of good feedback practices. These were intended as tools that teachers might use to analyse and improve their own formative assessment and feedback practices. Their provisional list identifies feedback that:

- Supports the development of self-assessment (reflection) in learning
- Encourages teacher and peer discussions around learning
- Helps clarify what good performance is (goals, criteria and expected standards)

- Provides opportunities to close the gap between current and desired performance
- Delivers high-quality information to students about their learning
- Provides information to teachers that can be used to help shape the teaching and learning.

Feedback should be seen as key to improving learning. Black and William (1998) identified feedback as an important element of formative assessment and a wide range of the literature examined its complexities.

Feedback is important to the study as it can be concluded that students need feedback in their learning in order to improve their learning. The section that follows will determine the importance of feedback in all learning contexts.

2.5 FEEDBACK

Hyland (2000:233-247) contends that feedback is an essential component in all learning contexts and serves a variety of purposes including evaluation of students' achievements, development of students' competences and understanding, and elevation of students' motivation and confidence.

Broadfoot (2008) indicates a significant area of challenge in higher education to be that of theory not being matched to practice. Rust (2002:153) argues that there is a growing body of work that helps address the thorny issue of feedback. Drawing on literature on the subject of effective and helpful feedback, Broadfoot (2008) sends a clear message that learning is likely to increase if lecturers provide feedback that is sufficient in detail and with sufficient timelines to act on, and also if students are actively encouraged to self-reflect and make use of peer assessment. Gibbs and Simpson (2004-05) delineate the following key requirements of feedback:

- Sufficient feedback needs to be provided, both often enough, and in adequate detail.
- Feedback should focus on students' performance, on their learning and on actions under the students' control, rather on the students themselves or their characteristics.
- The feedback must be timely in that students receive it while it still matters to them and in time for them to pay attention to further learning or receive further assistance.
- Feedback must be appropriate to the purpose of the assignment and to its criteria for success.

- Feedback must be appropriate in relation to students' understanding of what they are supposed to be doing.
- Feedback must be received and acted upon by the student.

Gibbs and Simpson (2004-05) observe that such conditions provide a framework for lecturers to review the effectiveness of their own assessment practices. Bloxham and Boyd (2007) describe the crux of providing effective feedback by highlighting that the information must also relate to future performance – termed *feed-forward*. Feed-forward is a useful term as it emphasises the fact that guidance should ideally focus on what students should pay attention to in future assessment tasks. Hattie and Timperley (2007:86) contend that the “main purpose of feedback is to reduce the gap between current understandings and performance and a goal”. In this regard, feedback must address two questions:

- Where am I going? (What are the goals?)
- How am I going? (What activities need to be undertaken to make better progress?)

Hattie and Timperley (2007:84) also mention that the most improvement in student learning takes place when students receive feedback about a task and how to do it more effectively, and if it is clearly related to the learning goals. Hattie and Timperley (2007:86) further contend that feedback is more effective when it addresses achievable goals and when it does not carry “high threats to self-esteem”.

2.5.1 The role of feedback in student learning

According to Camus and O' Brien (1975), without feedback of any kind, human beings would not learn at all. We would end up doomed to repeat the same mistakes over and over again. Examining the literature on student feedback, this claim seems to be well supported.

Nicol and Macfarlane (2006:7) provide the following six principles of good feedback practice:

- It helps clarify what good performance is (goals, criteria, expected standards).
- It facilitates the development of self-assessment (reflection) in learning.
- It delivers high-quality information to students about their learning.
- It encourages educators and peer dialogue around learning.
- It encourages positive motivational beliefs and self-esteem.

- It provides information to educators that can be used to shape the teaching and learning.

Based on these principles, one could argue that feedback appears to be most important in student learning because feedback gives students the opportunity to reflect on their learning processes.

2.5.2 Different types of feedback

Feedback is relevant to the study because it is one of the essential tools which teachers can use to increase the student active learning and improves future performance of student learning.

There is a wide range of types of feedback from which students may benefit. These are written feedback (including electronic feedback), oral, individual, group and peer forms of feedback.

Each of these forms of feedback will now be discussed briefly to emphasise the importance of the variance in the type of feedback that students may appreciate – particularly in relation to active learning.

2.5.2.1 *Written feedback*

Written feedback can take the form of handwritten comments, word-processed comments, model answers, assignment return sheets, class reports and codes (Race, Brown & Smith (2005). The main advantages of written feedback are that it provides an enduring record and reference point that students can take away and reflect on later. It can be viewed and reviewed again by students and others. It can also be used by students to make comparisons with the results and feedback reviewed by their peers. In the case of summative assessments for which a mark is decided, students should have a clear understanding of how they attained the mark, and this is probably best achieved through written feedback. The main disadvantage of written feedback is that it is likely to take one a very long time to produce.

2.5.2.2 *Oral feedback*

Oral feedback is generally quicker but one runs the risk that one's students may forget important points and one may indeed also overlook important aspects. Many teachers also regard oral feedback as the best method for breaking bad news. According to Irons (2008), the teacher has to provide appropriate feedback to have a significant impact on students'

perspective – both intrinsic (wanting to learn) and extrinsic (needing to learn). In providing good oral feedback, a teacher needs to consider the clarity of feedback, especially indicating how students could improve and develop for the future (feed-forward) so that students understand what the feedback actually says and benefit from it (Irons, 2008:65). In the classroom, the teacher must provide feedback to evaluate students' performance accurately. According to Richards and Lockhart (1996:189), this includes decisions about: (1) whether students' errors should be corrected; (2) which kinds of error should be corrected; and (3) how students should be corrected.

Perception will determine the type of oral feedback the teacher gives in response to students' performance (Levy & Shiraeve, 2004). According to Robins (1997), perception is a process in which an individual organises and interprets sensory experiences with a view to making sense or viewing a certain object. It is important for teachers to consider the students' feelings when providing oral feedback because students' feelings are closely related to certain psychological characteristics they possess (Tsui, 1995). The teacher thus has to provide oral feedback in such a way that students feel free to express their ideas and so that they are not afraid of making mistakes but are willing to learn from them. This resonates with Tsui's (1995) contention that students' mistakes in a classroom can provide a source of learning.

Providing feedback to students is one of the important aspects of teaching. Positive feedback is useful to increase students' motivation in learning and to build a supportive classroom situation, which, in turn, will encourage students to increase their participation in every classroom activity (Irons, 2008). Tsui (1995:43) asserts that the teacher who values every contribution and provides encouraging feedback creates a warm classroom atmosphere that facilitates the learning process. It serves to enhance students' motivation to learn and also their participation in classroom activities. Richards and Lockhart (1996:182–188) provide the following suggestions for giving oral feedback to respond to students' performance:

- *Acknowledging a correct answer:* The teacher acknowledges that a student's performance is correct, for example by saying "Good," "Yes, that is right" or "fine".
- *Indicating an incorrect answer:* The teacher indicates a student's performance is incorrect by saying, for example, "No, that's not quite right". XieNan (2007), in support of the above ideas, argues that students should not only recognise that they have performed correctly, but that errors in their performance should also be located and identified.

- *Praising:* The teacher respects a student for a correct answer, for example by saying “Good” or “Yes, an excellent answer”. Praising is one kind of feedback that can encourage students to learn and participate in the classroom.
- *Expanding or modifying a student’s answer:* The teacher responds by completing a student’s answer in the teacher’s own words.
- *Repeating:* The teacher repeats the student’s answer. This serves to clarify and check students’ knowledge.
- *Summarising:* The teacher provides a summary of what a student has said.

2.5.2.3 Individual and group feedback

Whether oral or in writing, group feedback can be particularly useful to convey common features of performance and to provide advice on how those areas of performance can be improved. Group feedback could give individual students a sense of whether their performance is in line with the rest of their peers. It also saves time. Hyland (2000:235) maintains that to be effective feedback needs to encompass more than an appropriate explanation or justifications of assessment given. It needs to be relevant to the student’s future studies, focused on valued and attainable objectives, aware of the student’s own perceptions, and sensitive to the range of responses that various kinds of criticism and advice may prompt. Feedback must also assist students in taking greater responsibility for their own learning. In support of the above expressed idea, Mutch (2003:37) argues that while it is crucial that feedback is seen as a developmental activity, it should not only focus on individual practice in that this may cause the teacher to miss out on the full range of conditions which make for effective use of feedback. Above all this relates to students’ capacity to make sense of and apply feedback in order to further their learning.

2.5.2.4 Constructive feedback

Significant learning takes place when students are actively involved in their learning. This implies that teachers should provide constructive feedback to students and use assessment practices that foster self-assessment.

Race and Brown (cited in Geysers, 2004) suggest that assessors should bear the following in mind when providing constructive feedback:

- Feedback should be timely to be meaningful. Late feedback is a waste of everybody's time.
- Feedback can be quick and swiftly delivered, for example via email or computer-based assessments.
- Feedback should include more than ticks. It should be detailed and descriptive.
- It can be given before work is assessed, in other words, before grades or scores are allocated.
- A score or grade alone with no qualitative justification does not support learning.
- Feedback should be honest, but also motivating.
- It should be realistic around issues that the learner can grasp and act upon for improvement.
- Negative feedback could damage a learner's motivation to learn. The assessor should be cognisant of the affective factors involved in receiving feedback, distinguish between the person who produced the work and the work itself, and only comment on the work.
- Judgments that leave no room for improvement should be avoided (for example, phrases such as "Disappointing", "Substandard", "You can do better than this"). Rather write constructive comments that will tell the learner how to improve.
- During feedback positive comments should be given before negative comments.

In support of the guidelines for constructive feedback expressed above, Rust (2002:152:152–153) suggests the following criteria. Thus, feedback should:

- Be prompt
- Start off with a positive, encouraging comment
- Include a brief summary of the assessor's view of the assignment
- Relate specifically to the learning outcomes and assessment criteria
- Balance negative with positive comments
- Turn all criticism into positive suggestions
- Make general suggestions on how to go about the next assignment
- Ask questions that encourage reflection on the work
- Use informal, conversational language
- Explain all comments
- Suggest follow-up work and references.

- Suggest specific ways to improve the assignment
- Explain the mark or grade, and why it is not better (or worse)
- Offer the opportunity to discuss the assignment and the comments.

Much of what Rust (2002) and also Geysers (2004:108-109) suggest, is common sense and in some shape or form standard practice in language assessment where little is achieved by leaving the student wondering as to the reasons for his/her previous fallacies. In teaching, this has a further advantage: the student is compelled to apply feedback constructively in order to progress to the next level of competence.

2.5.3 The potential value of feedback

Feedback need to be regarded as essential to individual student learning process. Jordan (2006) argues that both assessment and assessment feedback play a fundamental role in underpinning student learning in higher education and as such should be an integral part of any teaching and learning strategy. Indeed, it is frequently argued that assessment can be seen as one of the main driving forces behind student learning (Brown, Bull & Pendlebury, 1997; Kneale & Collins, 1996:289). It is also argued that both assessment and assessment feedback are crucial communication tools. Brown (2001) maintains that fundamentally, for academic staff, assessment feedback is information and/or communication, which can be given various forms in response to an assessment and/or an individual or a group's performance of a task(s) with the purpose of motivating the student(s) by informing them how well they have done and how to improve. Consequently, feedback is an essential part of assessment and is a key factor in underpinning successful teaching and learning strategies. Brown (2001:17) further contends that most academic writing about assessment agree that for assessment feedback to be most effective, it needs to be 'timely', 'relevant', 'meaningful', 'encouraging' and offer suggestions for improvement that students can grasp, that is, which they see as realisable. Assessment feedback moreover needs to be personalised so that it fits each student's individual and personal educational needs (Race, 2001:87).

Equally important is that assessment feedback is manageable for both students and academic staff, as it can be difficult for students to utilise and for staff to produce large amounts of assessment feedback (Brown, 2001:87).

Linking to the question of feedback, is the issue of students' reflection on learning. Based on feedback, reflection helps to increase the value of the learning experience by enabling

students to put meaning to the process in which they are engaged. Reflection thus assists students to be more aware of their own learning and also helps them to improve their learning.

2.6 REFLECTION

Learning is not just a process of accumulation of information – it is also about how the new knowledge that the student encounters is integrated with the existing schemata of prior knowledge. According to Ramsden (1992:82), learning is “best conceptualized as a change in the way in which people understand the world around them, rather than a quantitative accretion of facts and procedures”. Reflection thus forms an important link between processing the new information and integrating it with the existing understanding of the world around it. The value of reflection in learning lies in its ability to help students to clarify their thoughts, to gain insight and to deepen their understanding of the information they receive (Higgs, 1988:47). To Andrusyszyn and Davie (1997:20) reflection is a deliberate cognitive activity in which students connect thoughts, feelings and experiences related to the learning activity in which they are involved. Woods (1995:33) takes the reflection process a step further and suggests getting students to reflect and to write reflection journals as a means of helping them to “explicitly see the process skills that they have employed to solve the problem”. The act of reflection allows students to take apart the process skills involved in solving the problem and integrating and applying the skills.

2.6.1 Reflective practice within the Education Reform Policy in Namibia

Subsequent to independence in 1990, Namibia implemented an Education Reform Policy that included a shift from a teacher-centred to a learner-centred education system. In 1993, the Ministry of Education drafted a policy document “*Towards Education for All*” which translated the Namibian philosophy on education into concrete government policies that could be implemented”. This signified that learners should learn with understanding as opposed to memorising and merely regurgitation facts. At the same time learners were to be considered constructors of knowledge other than empty vessels to be filled with knowledge. The reform policy recommended that learners “... must also learn to analyse and synthesise, to imagine and explore, to what can be and how to get there” (Ministry of Education, Namibia, 1993:121). Against this background, my contention is that teachers have a very crucial role to play in making sure that a learner-centred approach is a reality in their teaching

practice. Therefore, the challenge for teachers is to transform and function as critical, reflective practitioners and to transform their classroom into communities of inquiry.

The reform policy document specifies that teacher reflection has a major role to play in improving learner-centred education in Namibia. In addition, the reform policy document states that reflection is believed by experts to be an authentic way to enhance positive change in teachers. This means that reflection is considered as a process of looking back at one's teaching experience, by means of calling some aspects of teaching into question, analysing it, evaluating it and making plans for improvement. The reform policy document cites two tools of reflection. These include conversation with peers and secondly creating focus groups. In my opinion, sharing teaching experiences with other teachers is also an effective way of reflecting. Regarding focus groups, teachers with common interests ought to get together in small groups to address common problems.

The Ministry of Education (1993:56,119) stipulates the following with regard to learning:

Indeed, learning seems to involve much more than memorising and repeating. As children need to learn to think independently and critically, they must master strategies for identifying, analysing, and solving problems. It seems very important that they must develop confidence, which includes the sense that they have the ability to contribute productively to society, to help it grow and to participate in governing it. One of the aims of education is to provide a balanced, relevant and coherent programme of instruction and learning to promote intellectual development to develop a lively, questioning, appreciative and creative intellect, enabling learners to discuss issues rationally, solve problems and apply themselves to tasks. Emphasis should be on higher levels of thinking and anticipating identifying confusing elements.

2.6.2 Critical reflection

Burns (2002:255) explains critical reflection in relation to the widely held view in adult education that experience is a central pillar of learning but in order to learn from experience you need to reflect on it: "The essence of learning from experience is to be found in the relationship between the learning and the context. The vital process of noticing and being aware of what has happened and taking action."

The supporters of critical reflection assert that critical reflective practitioners ought to exercise a democratic leadership style. The principle underscoring this contention is that a democratic leadership style requires teachers to have their lessons open for scrutiny by other teachers and learners.

Of equal importance to students' active participation in their learning are reflective skills. Reid (1993:306) defines reflection "as a process of reviewing an experience or practice in order to describe, analyse, evaluate and so inform learning about practice". Moon (1999:880) maintains that reflection can be seen as a tool that facilitates personal learning towards the outcome of personal development, which ultimately leads to empowerment and emancipation. Moon (1999:880) further notes that reflection works more effectively at higher levels of learning, such as marking and working with meaning and transformative learning. According to Osterman and Kottkamp (1993:19), "... reflective practice is a means by which practitioners can develop a greater level of self-awareness about the nature and impact of their performance". This implies that awareness of individuals' performance may contribute to improved practice.

In line with the ideas expressed above, Watts and Lawson (2009:610) define critical reflection by stating that it includes the ability of the teacher to be able to reflect upon practice in a critical way so as actively to improve current practice through a process that involves systematically evaluating a range of complex factors resulting in a judgement or decision about a course of action or future response.

Woerkom (cited in Hoyrup & Elkjaer, 2006:29) proposes that reflection is a complex activity aimed at investigating one's own action in a certain situation and involving a review of the experience, an analysis of causes and effects, and the drawing of conclusions concerning future action, and which results in a changed conceptual perspective. In line with the ideas expressed above, Moon (1999:143) argues that reflection is a process beginning with a descriptive tale and leading to critical analysis. Each level of reflection leads to a stage of cognitive processing – high levels of reflection thus lead to deep levels of learning. Students who become aware of new information but do not attempt to accommodate it have a surface approach to learning and will often only memorise the information presented to them for assessment purposes. However, if they are motivated to reach higher levels of reflection, they will be more likely to take a deep approach to learning (Moon, 1999). Race (2002) maintains that the act of reflecting is one that causes us to make sense of what we have learned, why we

have learned it, and how that particular increment of learning took place. Moreover, reflection is about linking one increment of learning to the wider perspective of learning – heading towards seeing the bigger picture.

Biggs (1999) contends that reflection helps raise our awareness of ourselves and of learners and to see how they can direct and change learning. In addition, Biggs (1999) points out that a reflection in a mirror is an exact replica of what is in front of it. Reflection in professional practice, however, gives back not what it is, but what could be or an improvement on the original.

Hatton and Smith (2006) refer to the following four strategies that could promote reflection:

- Action research projects
- Case studies and ethnographic studies of students, teachers and classrooms
- Microteaching and other supervised practicum experiences
- Structured curriculum tasks.

According to Hatton and Smith (2006), there is however little research evidence to show that this is actually being achieved.

Day (1999:229) asserts that without engaging in systematic and conscious reflection of one's own practices as educators, professionals are unlikely better to understand their own motivations and biases in the formation of knowledge, from which they then encourage others to learn. This method takes into account personal experience and the reflection upon it to continue the development of focused expertise.

Critical reflection is an essential part of transformative learning. Though other approaches to transformative learning exist, there is general agreement in the literature that a cognitive approach to transformative learning involves the critical examination of held beliefs to assess their validity, bias and limitations in a given context (Cranton, 1994; Mezirow, 1998; Moore 2005). According to Mezirow (1990:7), reflection can take place within both instrumental reflection and communicative learning realms. To Reynolds (1997:314), instrumental reflection involves task-oriented problem solving, which is similar to the concept of technical rationality (Schon, 1987) in which the focus is on the knowledge and skills of a particular function and its specific improvement. This means that reflection relates to the analysis of the procedure or function followed, in order to improve the achievement of goals or solutions,

but it cannot be considered critical because it does not facilitate the questioning of one's assumptions, beliefs and meanings underlying the procedure. Vella (1994) considers the concept of *praxis*, a Greek word that means reflection with action, including implementation as an integral component. O'Neil and Marsick (1994:18) put equal emphasis on learning and doing, whereas Boyd and Fales (1983:111) stress deciding whether to take action as a focus of critical reflection. Stein (2000:2) also links decision making with learning and doing, stating that, "[R]eflection should help learners make meaning out of content applied in a specific practice situation and better understand the complexity of how one acts and must act in a future situation". Finally, Mezirow (1998:186) views the assessment or reassessment of assumptions as the basic premise underlying his definition of critical reflection.

Stein (2000:1) argues that critical reflection is viewed by some educators as a learning device that can be taught using such tools as diaries (Heath, 1998), action learning groups (Williamson, 1997), autobiographical stories (Brookfield, 1995), and sketching (Willis, 1999). In interviews with 26 university educators, Amobi (2005:313) established that the formats most used (in order of preference) were: writing, questions in connection with field experiences, collaborative reflection, classroom discussion and modelling.

Kilpatrick, Hart, Najee-ullah and Mitchem (2001:385) indicate that "... engage[ment] in inquiry can provide the basis for teachers' learning to become generative so that their knowledge, conceptions and practice continue to grow and evolve". In addition, Kilpatrick *et al.* (2001) propose that teachers analyse ideas in a school curriculum from a learner's point of view. Again, teachers should also think of learners' problem-solving strategies and how the difficulties learners come across in the classroom influence classroom practice. Anderson(1996:4) contends that learning occurs best with "a combination of abstract instruction and concrete abstract instruction and concrete illustrations". This implies that teachers would need to reflect on how to put together abstract instruction and concrete illustrations to place learning within the classroom and the real-world context and to enable the application of classroom-gained knowledge to solve learning problems encountered in real-life situations.

According to Kilpatrick *et al.* (1997:2), "the reflective teaching model provides a framework for teachers to systematically observe experience and reflect upon teaching and learning and thus learn to challenge and explore their own teaching practice". Furthermore, the same authors (1997:2) claim that through the sharing of authority, learning situations appropriate

for the creation of new knowledge about teaching and learning are produced. These authors maintain that it is essential for teachers "... to relinquish intellectual authority and to learn to value various perspectives, to honour knowledge gained through experience and/or to respect the reasoning and thinking [of different learners]" (Kilpatrick *et al.*, 1997:2). In addition, it serves the purpose of collaboration between teachers and learners through effective communication as teachers attempt to execute appropriate ideas from learners and "stimulating ... all [learners'] intellectual growth" (Kilpatrick *et al.*, 1997:3). Ferraro (2000:1) summarises much of the literature on the role of critical reflection in professional development by stating that the primary benefit of reflective practice for teachers is a deeper understanding of their own teaching style and ultimately, greater effectiveness as a teacher. Other specific benefits noted in current literature include the validation of a teacher's ideals, beneficial challenges to tradition, the recognition of teaching as artistry, and respect for diversity in applying theory to classroom practice.

2.6.2.1 Barriers to critical reflection

According to Hatton and Smith (1995:36), one crucial barrier to critical reflection is "the persistence and strength of participants' own conceptualization" of their fields of study. In respect of teacher education in particular, Hatton and Smith (1995) propose that many students have an immediate and pragmatic orientation and are more interested in mastering the technical skills and content of teaching. Another barrier identified by Hatton and Smith (1995:37) is time and opportunity for development, which can be particularly difficult if efforts to support the development of critical reflection skills are isolated to a single course, as opposed to being integrated throughout all programmes. Time may be further constrained in elective or survey courses, where much of the content may be new to students, as would be the case for many students enrolled in university teaching courses.

Hatton and Smith (1995:37) also point out that such feelings may include vulnerability in respect of exposing students' "perceptions and beliefs to others". This means that students may also experience discomfort by being asked to write in the first person or to engage in any kind of learning activity that is different from what they are used to. Within teacher-education programmes in particular, the emphasis on the demonstration of best practices may present further barriers to reflection; "teacher education still enforces a cultural view of teaching with calls for teacher rationality and individualism, failing to establish the political or problematic nature of schooling" (Hatton & Smith, 1995:39).

2.7 SUMMARY

In this chapter a range of literature sources was explored to provide some theoretical grounding for the empirical part of the study and to clarify the key concepts involved in the study.

The main body of literature on student learning through peer assessment, self-assessment and reflection has provided a number of core definitions from the perspectives of different authors. The researcher categorised the main factors as playing a crucial role in the experience of active learning. From the literature review it seems clear that it is difficult to separate these important factors from one another in a study such as this one in which the aim is to understand student learning through self- and peer assessment and reflection. The figure below presents a simple conceptual framework of self- and peer assessment, feedback and reflection. It should be noted that throughout the student occupies a central and active role in all learning processes.

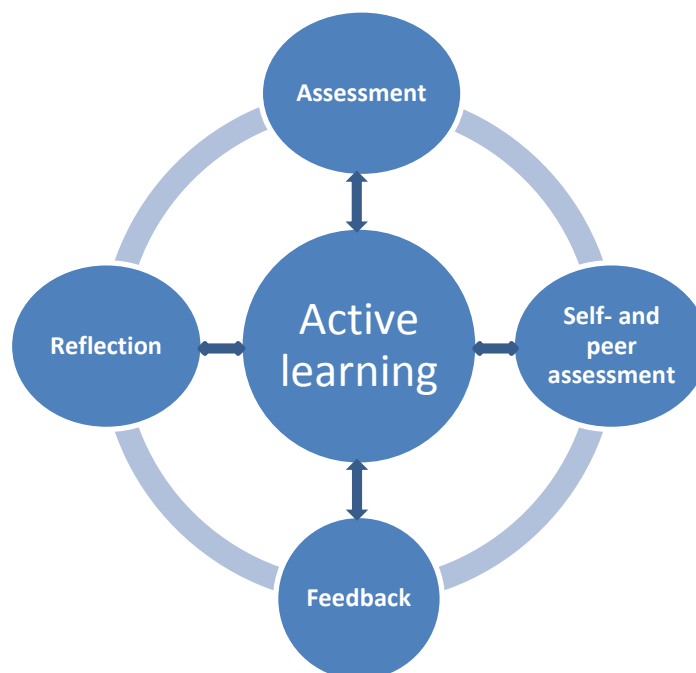


Figure 2.1: A possible configuration of active learning through self-assessment, peer assessment, feedback and reflection

The factors and key concepts as discussed are proposed to be interconnected and interdependent. This highlights a number of issues that should be borne in mind when

exploring active learning through self- and peer assessment and reflection among a group of college students in initial teacher training in a teachers' college as was the case in this study.

The following points were considered to be of importance in this study:

- The literature claims that assessment as learning requires that students take an active role in their own learning and assessment. This entails that assessment as learning involves students in becoming more responsible participants in the entire learning process. Active learning therefore seems to promote student participation in their own learning. Students obviously construct knowledge and understanding on the basis of what they already know (Ramsden, 1992; Gravett, 1995). This means that learning should stress understanding rather than memorisation and teacher educators should assess for understanding rather than surface knowledge and recall of facts.
- The literature also reveals that assessment processes should enable students to demonstrate deeper forms of understanding of concepts rather than surface knowledge. In this regard, assessment should be able to reveal the quality of students' understanding and thinking within specific contexts (Palomba & Banta, 1999; Rust, 2002; Allen, 2004). Assessment processes should emphasise students' ability to link ideas, apply knowledge and solve problems. Assessment as learning establishes student roles and responsibilities in relation to their learning and assessment. The literature suggests that assessment should engage students in self- and peer assessment and promote students' confidence and self-esteem through an understanding of how they learn. Formative assessment builds skills for peer and self-assessment. The literature states that self-assessment involves the ability to assess critically one's work against certain criteria or standards (Boud, 1992; Montgomery, 2001; Rolheiser & Ross, 2003). Self -assessment and reflection are often thought to be the same as both focuses on learning and experience. Students need systematic practice in judging their own work, and need feedback to develop their assessment skills.
- Appropriate feedback throughout the learning/teaching process should lead students to modify and refine their thinking. Students in a process learn and create understandings through social interaction (Rust, 2002; Nicol and Macfarlane, 2006; Timperley, 2007). This implies that teacher educators should engage students in collaborative activities and use assessment practices that provide information on the

students' level of development. Firstly, literature points to the fact that learning involves change in behaviour and acquiring new knowledge. Secondly, active learning seems to facilitate student' self-discovery of knowledge and may apparently also create a climate that encourages student cooperation in learning. Active learning therefore seems to be promoted by facilitating class discussions, allowing learners to think critically and to use logic to evaluate their own and others' positions on knowledge and learning. Students who learn through active learning, learn by doing; they take risks and have the ability to get things done. They enjoy small-group discussions, projects and individualised learning activities.

- Literature highlights the fact that reflection on learning also seems to play a crucial role in students' experiences to build a professional identity that include an understanding of personal beliefs, attitudes and values in the context of learning (Biggs, 1999; Day, 1999). Literature re-affirms that reflection can help students to engage in self-monitoring and self-regulation. Reflective practices apparently assist students to act and think professionally as an integral part of learning throughout their studies.

The next chapter deals with the methodology used in conducting the empirical part of this study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. INTRODUCTION

This chapter gives an overview of the research methodology that guided this research, including the methods and techniques that were used. The research design, selection of research participants, data-collection techniques, data analysis and the limitations of the study are explained.

The study employed an interpretative research paradigm as the lens for understanding knowledge. The research constituted a case-study design that used interviews, focus-group interviews and classroom observations as methods of generating data.

Walker (1985:45) restricts the use of the concept *methodology* to “a logic of methods”. He explains the term *method* as the “research recipe” and uses *technique* to refer to the “detailed practice of these strategies”. Lincoln and Guba (1988) as cited by Cantrell (1993:86) draw a stronger distinction by calling the method a hammer, “but using it in the service of carpentry is an instance of methodology”. Research methodology can therefore be seen as the guiding principle for the researcher to discover something “new and original” (Neuman, 1997:2).

This chapter sets out to elucidate the method and the methodology. Harding (cited in Gough, 2003:2) distinguishes between *methods* and *methodology* in the following way: methods are the techniques or tools that one uses to collect data, while methodology refers to:

A theory of producing knowledge through research and provides a rationale for the way a researcher proceeds. Methodology refers to more than particular techniques, such as doing a survey or ‘interviewing students.’ Rather it provides the reasons for using such techniques in relation to the kind of knowledge or understanding that the researcher is seeking.

3.2 The research questions

The following research questions guided this study.

3.2.1 Main research question

How may self-assessment, peer assessment and reflection enable student teachers to engage more actively in their own learning?

3.2.2 Subsidiary questions

- What are student teachers' conceptions of active learning?
- What role do self-assessment, peer assessment and reflection play in student teachers' demonstration of their instructional skill?
- What are student teachers' perceptions regarding how peer-assessment, self-assessment and reflection strategies contribute towards active learning in their studies?
- In what ways are student teachers actively involved in the assessment of their own professional preparatory learning?

3.3 RESEARCH AIM AND OBJECTIVES

The main research aim of this study was to determine the respects in which self-assessment, peer assessment and reflection contribute to student teachers' active learning in their initial preparation for their profession.

The research objective was to determine:

- How student teachers view the concept of active learning
- The role self-assessment plays in student teachers' learning activities
- The role peer assessment plays in student teachers' learning actively
- What role reflection plays in student teachers' learning activities
- How to construct more active learning opportunities for student teachers by using self-assessment, peer assessment and reflective skills.

3.4 RESEARCH PARADIGM

A paradigm, according to Babbie (2001:42), is a fundamental model or frame of reference we use to organise our observation and reasoning. Creswell (1998:74) argues that researchers approach their studies with a certain paradigm or world-view, which is a basic set of beliefs or assumptions that guides inquiries. Creswell (2003:82) also indicates that using qualitative data for research implies an interpretative paradigm. This in turn implies that the researcher interprets the data by developing descriptions of individuals/settings, analysing the data for

themes or categories, and finally making an interpretation or drawing conclusions about their meaning, personally and theoretically, about lessons learnt and suggesting questions to be asked (Creswell, 2003:182).

Murray (2005:2) explains research within an interpretative paradigm as an orientation that adopts a hermeneutic approach, which focuses on the subjective understanding of human experience and the meaning of the phenomenon being studied. Drawing from Cantrell (1993:84) and Taylor and Bogdan (1998:3), it is understood that the interpretive paradigm allows a researcher to understand the situation or phenomenon from the respondents' own perspectives and to interpret the meaning of their experiences within the social and cultural context of a natural setting. This could lead one to "search for deep perspectives on particular events and for theoretical insights" (Bassey in Topnaar, 2004:33).

Richie and Lewis (2003:7) emphasise that the researcher working in an interpretative paradigm must "understand the meaning of social actions within the context of the material condition in which people live". They consider an interpretative orientation to be integral to the qualitative tradition because its practice provides an holistic understanding of research participants' views and actions in the contexts of their overall lives. Ritchie and Lewis (2003:7) further argue that it focuses on the importance and interrelatedness of different aspects of people's experiences and the recognition that various cultural factors play important roles in shaping people's understanding of their world.

As the term then indicates, an interpretative paradigm focuses on interpreting and understanding human action using the researcher as the primary research instrument (Jackson, 2003:5). Jackson (2003:5) also notes that the paradigm one chooses largely depends on what one wants to find out and also what views of reality one wants to project. This study was therefore positioned within an interpretative paradigm of knowledge because it was more concerned with understanding a social phenomenon such as active learning from the perspectives of the participants and the researcher (McMillan & Schumacher, 2001:15-16).

3.5 RESEARCH DESIGN

The research design is the researcher's plan of inquiry (Bogdan & KnoppBiklen, 2006:54: McMillan & Schumacher, 2001:72) that sets paradigms or lenses of interpretation into motion (Denzin & Lincoln, 2000:22). The research design also assists with how to proceed in gaining an understanding of phenomena in more natural settings (Ary *et al.*, 2002:426). The

purpose of a research design thus is to provide, within an appropriate mode of inquiry, the most valid and accurate answers possible to the research question (Denzin & Lincoln, 2000:22; McMillan & Schumacher, 2001:31). According to McMillan and Schumacher (2001:30-31), a research design describes the procedures for conducting the study, including when, for whom, and under what conditions the data will be generated. McMillan and Schumacher (2001:31) further argue that the research design is a very important part of an investigation since certain limitations and cautions in interpreting the results are related to each design and also because it determines how the data need to be analysed. Mason (2002; 25) argues that the research design encourages the process of 'decision making' from the outset and continues throughout the entire research process and moreover calls for the constant reviewing of decisions and approaches (Ritchie & Lewis, 2003:47).

This study employed a contextual case-study design, because the aim was to explore and understand the perceptions and actions of student teachers with regard to active learning within the context of one institution for teacher education in Namibia. Access to students' opinions and my own systematic observations and field notes on what may have enabled or inhibited active learning of second- and third-year college students allowed me to gain a deeper understanding of the salient roles of self-assessment, peer assessment and reflection.

Within the context of one campus of the University of Namibia (formerly the Rundu College of Education), this case study used interviews, focus-group interviews and observations to interpret and understand the case at hand. A strong advantage of a case study is that it allows the researcher to study a phenomenon within its natural setting. It allows for a more in-depth study of processes that lead to certain outcomes. Using the case-study method enabled the researcher to retain the holistic and meaningful characteristics of real-life events in this case. In addition, one might discover the reasons why certain outcomes could be expected (Denscombe, 2003:3). Furthermore, a case-study design stems from its focus on just one instance of the subject that is to be studied intensively (Denscombe, 2003:31; Huysamen, 2001:168). Gorman, Hamersley and Foster (2003:3) define the case study as referring to research that investigates a few cases, often just one, in considerable depth. The value of the case study lies in the potential richness of data, and the extent to which the research can convey a sense of how the case functions. To achieve this, data-gathering tools that would provide first-hand accounts and rich details were selected (Terre Blanche & Durrheim, 1999:124). It takes multiple perspectives and attempts to understand behaviour (Babbie & Mouton, 2001:281). This method has been selected to seek deep information on the

perceptions of student teachers on self-and ‘peer assessment’ and reflection in determining active learning. Case studies are particularly useful because, concentrating on one case rather than many, points out insights that can have wider implications that may not easily be realised when dealing with a wider scope. By looking at self- and peer assessment and reflection in determining active learning, the researcher hoped to gain knowledge concerning active learning. Denscombe (2003:38) asserts that using case studies can help the research to focus on one or a few instances and this allows the researcher to deal with the subtleties and intricacies of complex situations. It assists the researcher to grapple with relationships and social processes in a holistic way rather than basing these on social facts. Lindegger (cited in Terre Blanche and Durrheim, 1999:255) argues that case studies can comprise studies of particular individuals but they could also be studies of single families, units or social policies. This opinion is echoed by Cohen and Manion (1994:106) who state that the case-study researcher typically observes the characteristics of a single unit.

In view of this, a case-study design was used for collecting data within a real-life teaching and learning context. Bassey (1999:120) asserts that one of the most important strengths of a case-study design is its ability to study a situation within its context. It also presents research or evaluation of data in a more publicly accessible form than other kinds of research reported in a narrative form. Case studies subscribe to the interpretative paradigm in that they assist the researcher in seeing the situation through the eyes of his/her participants. Baker (1999:326) maintains that case studies are most appropriate in educational research when they use comprehensive strategies in a single social environment to reach theoretical conclusions with widespread implications. Additionally, case-study methods allow researchers to retain holistic and meaningful characteristics of real-life events such as organisational and managerial processes (Merriam, 2002:205). This means that by using a case-study design the researcher keeps a sense of ‘reality’, that is, a sense of what really happened in respect of the phenomenon studied.

According to Hitchcock and Hughes (cited in Cohen, Manion & Morrison, 2002:182), the case-study design is used in educational research because of its numerous hallmarks:

- It seeks to understand participants’ perceptions of events.
- It highlights relevant and specific events.
- It attempts to portray the richness of the case in report writing.

Drawing on Coleman's advantages of the case study (in Cohen *et al.*, 2003:184), case studies recognise the complexity and embeddedness of social truths but do not attempt to transfer or generalise to other contexts unless the contexts are similar. They carefully present discrepancies or conflicts between the viewpoints held by research participants and are capable of offering some support to alternative interpretations. Cohen *et al.* (2003) further maintain that since case studies make the research process accessible, they contribute towards the decentralisation of decision making and knowledge itself in that in optimal circumstances they allow readers to judge the implementation of a study for themselves (Cohen *et al.*, 2003:84).

3.6 RESEARCH METHOD

The research methods used in this study are discussed by referring to sampling, data collection and data analysis.

3.6.1 Sampling

Fox and Bayat (2007:54) describe a sample as any subset that is obtained from the elements of the population to be studied. Uys and Puttergill (2003:107) explain that sampling is a process of selecting part of a group to be studied and choosing a sample is one way to optimise the use of resources in a research design.

According to McMillan and Schumacher (2006:321), the group of subjects or participants from whom the data are collected, is referred to as a sample. These authors further explain the sampling process of a study population as dynamic, *ad hoc* and phasic rather than static or *a priori*. Ritchie and Lewis (2003:83) state that qualitative samples are usually small because a phenomenon has to appear only once to be part of an analytic map.

Neuman (1997:20) describes sampling as the process of selecting a number of individuals for a study in such a way that the individuals represent the larger group from which they were selected. Furthermore, Terre Blanche, Durrheim and Painter (2006:249) argue that sampling refers to the process of selecting research participants from the study population that has been identified. In the present study, purposive and convenience sampling were used to select participants. Purposive sampling involves the conscious selection by the researcher of certain participants to be included in the study (Burns & Grove, 1997:306). Brink (2006:133) asserts that sampling is thus based on the judgment of the researcher. Pilot and Hungler (1995:232) allude to convenience sampling as the selection of the most readily available people in a

study. According to Brink (2006:132), the term *convenience* is synonymous with accidental sample and availability sample. The selection of second- and third-year student teachers as my sample was influenced by their extended exposure to teaching and learning. They had been exposed to active learning, self-assessment and reflection during their training and were required to draw upon those experiences to answer questions during individual interviews and focus-group interviews. These students were also considered more mature and able to articulate their opinions about active learning through self- and peer assessment and reflection. Only 16 students participated in this study. The sample for the first part of the study (the interviews) consisted of a purposive and convenient sample of second- and third-year students. The sample size for the individual interviews included a purposive and convenient sample of eight participants. The second part of the study (focus-group interviews) comprised a purposive and convenient sample of eight second- and third-year student teachers.

3.6.2 Position of the researcher

It is essential to explain the role/position of the researcher in order for the researcher to understand his/her role clearly. The researcher undertook to make the research as transparent as possible. The student teachers were informed regarding the research purpose. The fact that students were under no obligation to participate was emphasised. Despite the researcher's position as a lecturer, the student teachers were informed that they were under no obligation to discuss anything relating to this research if they chose not to do so. The fact that the researcher was interested in learning from them was emphasised, and also the fact that any critical comment they were to make about the research would be welcomed. The researcher had first to obtain permission from the institution to conduct the proposed research. Permission was obtained to record the interviews on tape in order to ensure accurate recall (Creswell, 1994:148). Student teachers then participated knowing that the information that they divulged would not be made publicly available to others without their consent (Wilson, 1993:253). According to Denscombe (2003:2730), the researcher in a qualitative study is the data-gathering instrument. The researcher talks to students/participants, observes their activities and records this information in field notes or journals. In this study, the researcher assumed the dual role of participant and researcher by means of interviewing. This is a typical role of researchers in qualitative inquiry (McMillan & Schumacher, 2001:435). As a participant researcher in interviews, the researcher took a neutral stance so that participants' perceptions, thoughts and views were in no way influenced. On account of the researcher's

neutral role, he refrained from acting as an expert; instead, he considered the participants as information-rich experts in their natural setting regarding their own learning experiences in the programme that was being studied.

3.6.3 Unit of analysis

The unit of analysis was the selected sample of student teachers taking the Basic Education Teacher Diploma. The study involved 16 student teachers, (six female and ten male) from second- and third-year student teachers who were enrolled in the Basic Education Teacher Diploma (BETD) Programme.

3.6.4 Data-collection instruments

Data-collection techniques in this study comprised semi-structured interviews, focus-group interviews and observation. This followed on the premise that data collection in qualitative research involves the gathering of information from a variety of data sources (Holloway, 1997:45). According to De Vos, Strydom, Fouché, Poggenoeel and Schurink (1998:82), data-collection methods are chosen on the basis of the best ways to obtain the data required to explore a particular research issue or question.

Mills (2003:4) affirms that “qualitative research uses narrative and descriptive approaches for data collection to understand the way things are and what they mean from the perspective of research respondents”. The most practical, efficient and ethical methods of collecting data need to be selected (Marshall & Rossman, 1999:138). The chosen method must be suitable and well thought through as each method of data collection has its own unique strengths.

Slavin (1992:70) indicates that in collecting qualitative data, the researcher is trying to record everything of importance, which means he/she is constantly making decisions about what is important by being overly selective. In this project, data gathered over a period of two months included individual interviews, a focus-group interview and structured observations. The 16 participants from the University of Namibia’s Rundu Campus (formerly the Rundu College of Education) were briefed on the envisaged research to ascertain their willingness to participate. Each respondent was thoroughly briefed on the objectives of the study.

Three data-collection procedures were used for the empirical part of the study, namely semi-structured interviews with a purposive selected group of eight individual students, focus-group interviews with a further eight students and five classroom/activity observations. These

particular techniques were included to complement one another (Patton, 1990:245). It was also decided to use purposive sampling since there were reasons why certain students should have been selected rather than others. The reasons for the choice of purposive sampling in this study was the fact that this type of sampling allowed the researcher to choose participants who would be able to describe the perceptions of student teachers with regard to active learning through self- and peer assessment and reflection. The findings from the three data-collection methods were triangulated to enhance the trustworthiness of the data. According to McNiff, Lomax and Whitehead (2003:116), the use of data regarding an event from more than one source is called triangulation. McNiff *et al.* (2003:69) state the aim of triangulation as follows:

- To use it as evidence to support a particular explanation
- To show how the data from these different sources all go towards supporting the explanation given of one's situation.

According to Denzin and Lincoln (2005:5), triangulation is the use of multiple data-collection techniques. It enables the researcher to study the data from more than one perspective. The use of multiple data-collection techniques increases both the validity and the reliability of the research outcomes. Furthermore, Denzin and Lincoln (2005:5) indicate that the use of multiple methods or methods triangulation reflects an attempt to secure an in-depth understanding of the phenomenon in question. As all data-collection techniques have strengths and weakness, triangulation assists to emphasise the strengths and minimise the weaknesses.

The interviews were conducted by the researcher and a research assistant at two different levels, i.e. Year 2 and Year 3 of the Basic Education Teacher Diploma in Teaching Programme at the Rundu Campus of the University of Namibia. Ritchie and Lewin (2003:59) contend that the diversity in participant group composition and the need to come to a common location enhance commodity between people in their relationship to the topic. Data were collected electronically, recorded and then transcribed by the researcher. Creswell's (1998:123) advice that "a case study involves the widest array of data collection as the researcher attempts to build an in-depth picture of the case", compelled the researcher to use a variety of data-collection techniques, namely semi-structured interviews, focus-group discussions and observation. The purpose was to gain insight into the meaning that the student teachers attached to learning through self- and peer assessment and reflection so as to

promote active learning. Furthermore, to verify certain perceptions, the interview was also used to allow the participants to express their feelings verbally, and to explain beyond what they may have answered in a questionnaire. McMillan & Schumacher (2001:444) argue that whereas a questionnaire has limitations in terms of available space and choices, the participant may speak more freely and naturally during an interview. Interviews are naturally powerful in interpretative and contextualised case studies; they help respondents to make explicit things that have been implicit (Arksey & Knight, 1999:33). Bell (1993:27) describes the interview as a conversation between interviewer and respondent with the purpose of eliciting certain information from the respondent. The researcher decided to use interviews for the following reasons:

- Bell (1993:98) contends that a skilful interview can follow up ideas, probe responses and investigate motives and feelings, which the questionnaire can never do.
- The manner of response (the tone of voice, facial expression, hesitation, etc.) can provide information that a written response would conceal.
- The questionnaire response has to be taken at face value, but the interview can be developed and clarified. This entails that when conducting interviews there is always room for modification because one is able to clarify ambiguous or unclear answers.

3.6.5 Semi-structured interviews

In the first part of the study, semi-structured interviews were used for data collection. De Vos (2005:296) maintains that “researchers use semi-structured interviews in order to gain a detailed picture of participants’ beliefs or perceptions or account of a particular topic”. In this study, the researcher gained participants’ detailed perceptions on active learning through self- and peer assessment and reflection. This type of interview provides the researcher and the participants more flexibility. The researcher chose this tool because of its flexibility as he was able to probe beyond the answers provided and ask for clarification and elaboration where necessary (Ritchie & Lewis, 2003:111). De Vos (2005) indicates that with semi-structured interviews the researcher will have a set of predetermined questions on an interview schedule and the interview is guided by the schedule. An interview schedule was used to guide the researcher when asking questions. Within the interview schedule, eight questions were presented to the research participants and were phrased as follows:

- What are your views on the concept ‘active learning’?

- Do you find self-assessment to contribute to your being actively involved in your learning? If so, in which respects?
- Do you find peer-assessment to contribute to your being actively involved in your learning? If so, in which respects?
- Do you find reflecting critically on your learning to contribute to your being actively involved in your learning? If so, in which respects?
- What kind of feedback you have found to be useful in helping you to learn actively?
- How did this happen?
- Is there anything you think you need to do to involve you more actively in your learning to improve your learning results?

Semi-structured interviews were conducted during June 2011. The purpose was to gain insight into the meaning the students attach to active learning through self- and peer assessment and reflection. According to McMillan and Schumacher (2001:446), “qualitative interviewing requires asking open-ended questions”. McMillan and Schumacher (2001:269) further argue that “[S]emi-structured questions have no choices from which the respondent selects an answer; rather the question is phrased to allow individual responses. It is an open-ended question but it is fairly specific in its intent”.

Hitchcock and Hughes (1997:156) assert that “[T]he semi-structured interview is a much more flexible version of the structured interview. It is the one which tends to be most favoured by educational researchers since it allows depths to be achieved by providing the opportunity on the part of the interviewer to probe and expand the respondent’s responses”.

However, despite the advantages of this tool, interviews and the questions need to be planned carefully – one reason being that their personal nature may lead people to say things to please rather than their being truthful. Disadvantages of the interview include that consistency and objectivity are hard to achieve because of the impact of the researcher and the varying context of the situation. Data are thus unique to a specific person and context (Denscombe, 1998:137).

3.6.6 Focus-group interviews

A focus group is described by Barbour (1999:S19) as a researcher-selected group that is convened for the purpose of discovering a specific research problem. In a focus-group

interview, the participants interact with one another rather than with the interviewer, so that data emerge from the interaction of the group (Cohen *et al.*, 2001:289).

Focus-group interviews have been found to be a highly efficient technique for qualitative data collection since both the amount and range of data are increased by collecting from several people at the same time (Robson, 2002:284). Morgan (2006:121) maintains that focus-group members share their experiences and thoughts, while also comparing their own contributions with what others have said. This process of sharing and comparing is especially useful for hearing and understanding a range of responses on a research topic. The best focus groups thus not only provide data on what the participants think but also why they think the way they do.

According to De Vos (1998:313), the researcher uses focus-group interviews as a means of eliciting information from participants. Van Zyl (2002:28) maintains that focus-group interviews “... are utilised to obtain data from a small group of participants and these participants must have common interests that are linked to the subject that is researched”. This was the reason why the researcher in the present study selected student teachers who are familiar with active learning, self- and peer assessment and reflection.

Sifunda (2001:42) contends that the presence of the researcher as a facilitator in focus groups and the fact that the researcher’s interests drive the focus groups can contaminate data. In support of the above statement, Morgan (1997) argues that there is a very real concern that the facilitator, in the name of maintaining the interview focus, will influence the group interaction.

The researcher used focus-group interviews as part of the research. The focus-group interview used in this study was semi-structured. Cohen, Manion and Morrison (2002:288) indicate that data emerging from the interaction of group discussions during the interview give insight into feelings and experiences in general. The participants were allowed to reflect on their experience of active learning through self- and peer assessment, feedback and reflection.

The researcher recruited eight of the students enrolled for the BETD Programme for the focus-group interview. The students were selected based on their age – between 19 and 26 years – and they had to be second- and third-year students enrolled for the BETD Programme. Purposive selection was used. First-year students and lecturers were not included

in the sample. Only eight students were invited and all of these accepted the invitation to participate. Morgan (1997) proposes that a focus group should consist of between eight and 12 participants to ensure that constructive discussion will take place. For this reason eight participants discussed the questions.

The researcher attended the session for 10 minutes as an observer, but a lecturer led the discussion and a scribe made detailed notes of the discussion, which the researcher used for data analysis.

Greeff (in De Vos *et al.*, 2005:312) observes that the use of focus groups has decided advantages and disadvantages.

The advantages of using focus groups include:

- More people can be involved and thus more opinions can be voiced
- Ideas and topics that are unlikely to arise from individual interviews can be generated
- A range of issues that are relevant to the research topic can quickly be generated.

The disadvantages include the following:

- Some participants may feel threatened to speak out openly within the group.
- Large quantities of data are generated
- A skilled facilitator is needed both to obtain good quality data and help participants to stay focussed on the topic.

3.6.7 Observation

Observation was used in order to get answers to the research questions by observing students while they were actively participating in the lessons.

The Oxford Advanced Learner's Dictionary (2005:355) defines *observation* as "the act of watching carefully for a period of time". Observation was used in order to find answers to research questions by observing students in active learning. Engelbrecht, Eloff, Lomofsky, Masipa, Oswald and Swart (2003:17) believe that "... observation is a major means of collecting data in qualitative research", the reason being that it offers a first-hand account of the situation under investigation. McMillan and Schumacher (2001:273) also argue that the "... observational method relies on a researcher's seeing and hearing things and recording these observations, rather than relying on subject's self-report to questions or statements.

Furthermore, Leedy and Ormrod (2005:145) point out that observations in a qualitative study are intentionally unstructured and free flowing, allowing the researcher to be flexible, shifting his/her focus from one thing to another as some new events or important objects present themselves in the situation. In this study I observed five lessons for different subjects at the research site and was interested in obtaining data on (a) the activities that apparently promoted active learning; (b) whether student participation was active or not; and (c) issues that apparently inhibited active classroom participation and learning. Over the course of three days, the researcher observed the students in the following subjects: education theory and practice, agriculture studies, social studies, Rukwangali (home language) and English, and took field notes in the different classes.

Dahlstrom (2000:19) also defines observation as “a systematic process of carefully watching someone on something in order to obtain information”. Bell (1993:23) contends that observation is a technique that can reveal the characteristics of a group or individual that would be impossible to discover by other means.

Maykutt and Morehouse (1994:74) explain the significance of field notes – an explanation that I adhered to in this study:

The lesson observations and important conversations one has in the field cannot be fully utilized in a rigorous analysis of the data unless they are written down. The qualitative researcher’s field notes contain what has been seen and heard by the researcher, without interpretation. In other words, the participant observer’s primary task is to record without inferring feelings to the participants and without inferring why and how something happened.

3.7 VALIDITY AND TRUSTWORTHINESS

In this study, as part of enhancing trustworthiness of data, participants were given an opportunity to do member-checking to verify and proofread the transcripts and notes taken in the process of data gathering.

McMillan and Schumacher (2006:324) indicate that validity ought to reflect a degree of congruence between the explanations of the phenomena and the realities of the world. They are of the opinion that validity should question whether researchers indeed observe and interpret what they think they see or hear. In other words, valid reporting should reflect the mutual meaning of participants and the researcher in the interpretations. During the

communication process, the researcher therefore ensured the observance of ethical guidelines in respect of informed consent, deception, confidentiality and anonymity (McMillan & Schumacher 2006:333). Fox and Bayat (2007:148) stress that the voluntary participation, informed consent and the privacy of those who are to be interviewed or observed should be clearly stipulated.

According to McMillan and Schumacher (2006:324-326), “[Q]ualitative researchers typically use as many strategies as possible to ensure validity”. Various research methods were employed to ensure validity:

- Individual interviews, focus-group interviews and observation were conducted.
- Triangulation, a cross-validation among data sources, data-collection strategies, time periods and theoretical schemes were employed to see whether the same patterns kept on recurring (McMillan & Schumacher 2006:374).
- All the formalities were explained to the participants to encourage a sense of confidence and trust among them.
- The purpose of the study was explained to participants with a view to making meaning of the phenomenon being researched.
- The researcher ensured that the interviews were valid in that they were based on the research question.
- The researcher also ensured that the data gathered were valid because they too were based on the research questions. According to Creswell (2003:195), validity is seen as a strength in qualitative research and is used to determine whether the findings are accurate from the standpoint of the research participants or the readers of an account thereof, whereas Babbie (2001:143) describes validity as the extent to which an empirical study adequately measures the real meanings of the concepts under consideration.
- Trustworthiness is based on the identification of four aspects, namely truth-value, credibility, consistency and neutrality. In this study only credible contributions were collected. Triangulation was used to enhance credibility in view of the researcher’s role (McMillan & Schumacher 2001:408). Bell (2004:139) maintains that there is always a danger of bias in interviews largely because interviewees are human, not machines, and their demeanour may have an effect on the participants. To enhance data validity and trustworthiness, the following strategies were applied:

- All interviews were electronically recorded and transcribed verbatim.
- The transcribed data were checked with participants for accuracy.
- The researcher used two teacher colleagues who were well informed about the research project to conduct the group interview in order to limit subjectivity.

3.8 DATA ANALYSIS

All the recorded data obtained from the research interviews were transcribed verbatim. In order to protect participants' anonymity, these transcripts were coded so that the respondents' names did not appear. Also, all recorded data will be destroyed once the study has been approved.

Data analysis describes the procedure(s) that a researcher uses to analyse data (De Vos *et al.*, 1998:100; Maykutt & Morehouse, 1994:127). This study adopted content analysis as a qualitative data-analysis method. McMillan and Schumacher (2001:462) state that qualitative data analysis is an ongoing process integral to all phases of qualitative research. Content analysis is a systematic process of examining, selecting, categorising, comparing, synthesising and interpreting data to address the initial propositions of the study (Leedy & Ormrod, 2001:150; White, 2002:82; Yin, 2003:109).

According to Merriam (1998:178), “[D]ata analysis is the process of making sense and meaning from the data that constitute the findings of the study”. Therefore, data analysis is the process of making the data more manageable by organising the collected data into categories and interpreting the data, searching for recurring patterns to determine the importance of relevant information (Bogdan & KnoppBiklen, 1992:153; Marshall & Rossman, 1999:150).

Marshall and Rossman (1999:150) maintain that qualitative data analysis is the process of bringing order, structure and interpretation to the mass of collected data. It is a messy, ambiguous, time-consuming, creative and fascinating process. It does not proceed in a linear fashion; it is not neat. The basic task of any analysis is to make sense, out of or to bring some comprehension and illuminating order to, the complex set of practices and interrelationships that are usually the object of inquiry in qualitative research (Addison, 1999:146). In focus-group analysis, the emphasis is not on the number of people who said something, but rather on what they said. A focus-group report should read like a story, rather than merely comprising a series of tables (Sudman & Blair, 1998:195).

The data were analysed using content analysis. After completion of the interviews, data reduction was done to identify patterns and themes in order to gain insight and promote understanding. Data were then coded, examined, compared and categorised based on the research questions (Ghauari & Gronhaug, 2005).

Content analysis was used to analyse the qualitative data generated by the semi-structured interviews. Krippendorff (2004:18) holds that “... [C]ontent analysis is a research technique for making replicable and valid inferences from texts ... to the context of their use ...” The purpose of using this type of analysis was to find a reliable means of confirming patterns and themes that occurred. The researcher must be able to explain exactly how he/she has analysed the data so that others are able to repeat it, and so that the procedures used in the study can be repeated. This ensures that the analysis is sound (Krippendorff, 2004:81). Content analysis is a detailed systematic examination of the content of a particular body of material for the purpose of identifying patterns, themes or biases (Leedy & Ormrod, 2005:142).

Collected data from interviews and focus-group discussions were analysed by means of interpretative analysis. Through triangulation the researcher aimed to achieve a “thorough description and simultaneously generate emphatic understanding of the phenomenon being studied” (Durrheim & Kelly, 1999:139). Verbatim transcriptions of the individual interviews and the focus-group interview were coded and sorted into categories in relation to the study goals. Field notes were kept, analysed and compared for each instance of observation. From these categories the researcher aimed to develop themes and subthemes according to the research questions. Reduced data from all three data-collection methods employed were triangulated to determine the degree to which the data sets complement one another and to check for similarities or variations (Arksey & Knight, 199:23). Content analysis was used to analyse the qualitative data generated by the semi-structured interviews and focus-group interviews. Krippendorff (2004:18) contends that content analysis is a research technique for making replicable and valid inferences from texts to the content of their use. The reason for using this type of analysis was to find a reliable means to confirm patterns and themes that occurred. The data were analysed by dealing with one question at a time. Each of the questions already had a theme that was being explored. The responses of the eight participants to a particular question were entered on one page and each person’s response was coded, e.g. S1 referred to student number one. The responses were read to establish the essence of what had been said. From this process, categories based on the theme, for example self-assessment, were formulated (Welman, Kruger & Mitchell, 2005:215). All the responses

were again checked and the category codes were entered in a column to the right of the response, each time that this category occurred in the transcription.

3.9 ETHICAL CONSIDERATIONS

Before embarking on the research, the researcher obtained permission from the head of the institution at which the research was conducted. As the researcher, I therefore considered ethical issues carefully, and ensured from the outset that all participants were well informed regarding the purpose and objectives of the research. Participants were assured that the information provided and the data gathered would be treated confidentially and with discretion. Bell (2004:41) maintains that the conditions for ethical research in practice are that all participants are offered the opportunity to remain anonymous, all information is treated with strict confidentiality, interviewees have the opportunity to verify statements when the research is in draft form, and participants receive a copy of the final report. According to Cohen *et al.* (2001:292), there are three main areas of ethical issues when interviews are used, namely informed consent, confidentiality and the consequences of the interview. Compliance with these conditions enabled the researcher in this study to build a good relationship between him and the study participants. Knowing that their participation was voluntary and that they had the right to withdraw further enabled participants to provide informed consent. It created a sense of trust and built the participants' confidence. I was conscious of the tensions that might exist between his position as a researcher working alongside the students and his position as their lecturer who could exert a substantial amount of institutional power within the classroom setting. In addressing this concern, the researcher spent a significant amount of time talking to students about the purpose of the study and the way in which it would be carried out. I also emphasised the fact throughout that students were under no obligation to discuss anything relating to this research if they chose not to do so. I also emphasised that I was interested in learning from them and that I would welcome any critical comment they had about the nature of their involvement in the research.

3.10 CONCLUSION

This chapter discussed the research design and the methodology used in this study. It also described the research instruments used to collect data to answer the research question.

The next chapter deals with data presentation and analysis.

CHAPTER 4

FINDINGS FROM THE EMPIRICAL PART OF THE STUDY

4.1 INTRODUCTION

In the previous chapter, the research methodology was described and the research design and the instruments used to collect data were explained. In this chapter the data collected through individual interviews, focus-group interviews and observations are presented and analysed. The data collected are grouped into six themes.

This chapter presents participants' perceptions and experiences in narrative form. The eight participants in the individual interviews were student teachers who did not form part of the focus-group interview. The focus-group interview participants were eight second- and third-year students. Observations were performed in five classes. Special attention was paid to how actively these student participants participated in teaching-and-learning activities. The participants are indicated by alphabetical letters to protect their identity.

4.2 PROFILE OF PARTICIPANTS

Purposive sampling was used to select the participants from among second- and third-year students at the Rundu Campus of the University of Namibia (formerly the Rundu College of Education). All sixteen participants were chosen from the Rundu Campus of the University of Namibia. The students were selected on the basis of their being part of the Basic Education Teacher Diploma programme and their assumed background knowledge of the phenomenon being studied.

The sample of participants comprised eight second-year students and eight third-year students. All participants were between 19 and 26 years of age. The bulk of the participants in the research sample were males (ten), while six were females.

The opinions and perceptions of students registered for the Basic Education Teacher Diploma were elicited by means of semi-structured interviews as explained in Chapter 3. A total of eight students participated in these interviews on a voluntary basis and another eight participated in the focus-group interview.

4.3 REPORTING AND ANALYSIS OF THE DATA

Data will be reported according to different themes. Data from three different tools have been organised into categories based on the themes derived from the research questions. Each theme will be analysed and supported by relevant quotations from the text of the interview transcriptions.

4.3.1 Data on active and participative learning

Participants verbalised their views that active learning is perceived to take place in their own learning as well as in their own teaching practice through participation in forms such as discussions, pair work and group work, active listening, talking, reading, writing, and researching and answering questions. All the participants were positive about active learning being incorporated into teaching practices at all levels. What follows are examples of such responses:

Student teacher L: *“This evolves when a teacher is teaching, therefore learners have to participate in the classroom and this participation which I am talking about is not only individual learners, but everyone have to participate in the classroom and learners also have to feel free to say anything and acknowledgements also is needed from the teacher.”* Student teacher U had the following to add: *“It is participation in the class, learners/students answering questions from the teachers and students asking the lecturers questions and lecturers asking students in the class questions to and in active learning students participate through discussing things with their lecturer, by asking questions supplementing ... the topic”.*

Student teacher U stated that *“[A]ctive learning is more of the student’s participation in the class”*, while Student Teacher Y said, *“[A]ctive learning is a technique which is normally used by teachers whereby they give activities to learners to do. Instead of just keep[ing] on listening, they also involve learner’s attention where they give them activities to do. In active learning teachers can give work like pair work, whereby students can work in pairs and groups”*. She also stated that *“I find active learning so [much] helpful, whereby it involves [a] learner-centred approach”*.

Student teacher V: *“I see active learning as learning which involves the participants or someone who is learning to be actively involved in learning, whereby it involves something practical”*. He further provided examples of active learning: *“An example of active learning*

is group work, as it gives the opportunity to learners to participate". Thus for him, active learning involves that students or learners be actively involved in their learning through practical activities such as group work.

Student teacher K: *"Active learning is a process whereby you have to learn the way you understand it and try to put it into practice"*. In addition, she gave examples of active learning: *"Students answer questions let me say, a lecturer takes a topic in [a] multigrade [class] and ask[s] the question and students try to answer the question. In that case you may say students are actively learning"*. She further elaborated, saying that *"[S]tudents can also learn actively when they do more of practical, like sitting in groups and discussing activities"*.

Student teacher M: *"When we talk of active learning maybe in high schools there it has to do with the involvement of the learners in the lesson rather than the teacher speak each and every time."* She further commented: *"I think active learning can be enhanced by giving students a chance to talk and also by using different strategies like pair work, group work; for example, when I talk, pair work students are grouped in pairs, each one will contribute in pair work and group work and they will learn from each other"*.

Student teacher P: *"Active learning is like when you are engaged in your work, able to do something by getting information on something"*, adding that *"[I]n the classroom situation active learning is when the lecturer is teaching. He/she asks questions and I participate through answering the questions"*.

Student teacher W: *"Active learning is when students participate in activities, especially classroom activities; that is when by then they take their education seriously by reading their books, they do research, group activities, also get information when they think it is necessary. They do their work, not being lazy, but they work hard to do their work"*.

From these personal statements by student teachers one can deduce that it is clear that the concept of active learning places students at the centre of teaching and learning, the vital value of active learning being that it increases students' retention and comprehension of the topic under discussion. It provides students with opportunities to give personal insights and interpretations. Active learning also offers opportunities for students to develop interpersonal and communicative skills. In higher education, generally, active learning determines a

learning culture that promotes critical thinking and deeper understanding of the course material.

The same sentiments emerged from the focus-group interview. For instance, a student teacher in the focus-group interview said: *“To my understanding active learning simply means the student is more involved in his/her learning through academic work. ... That is my understanding of active learning”*.

Another student pointed out: *“To my understanding active learning means [the] student must be at the centre of learning. ... Learners must do the activities themselves”*.

Another student in the focus-group interview said: *“I definitely concur; active learning is a process of kind of learning where a learner is more incorporated in the learning by participating in the lesson actively. ... Active by asking questions and understanding what is being taught”*.

Other student teachers in the focus-group interview expressed similar sentiments. One said: *“Active learning is when learners are more active doing everything in the lesson, whereas [in] passive learning the learners do nothing – they don’t do research on their learning and activities”*.

From the findings one can conclude that active learning is of particular importance in student learning. Active learning involves activities that engage students in doing something. Students may be involved in writing, researching, reading, asking questions, communicating with one other and reflecting.

From the classroom observations that were conducted and recorded a number of perspectives also emerged regarding active learning. An example of an inscription on my observation sheet reads:

In this class it became abundantly clear that students were actively engaged in the group activities through reading, writing, speaking, and asking questions, presentations and verbal indications of critical thinking.

From the observational notes in general it emerged as being obvious that student teachers actively participated in class activities. Lecturers therefore need to be aware of the necessity to structure learning environments that are conducive to active learning. This became clear as

participants throughout expressed a need for being actively involved in their studies and in their teaching practices.

4.3.2 Students' views on self-assessment

Participants in the study indicated that self-assessment contributed to active learning only when students were honest about themselves and their own learning. The following responses reflected the participants' views on self-assessment.

Student teacher L said: *"Self-assessment, like I am preparing for examination, it is good that I have to prepare some of the questions which will equip me for examination and prepare me. When the researcher probed further in this regard, the participant said: "I have to prepare questions for myself based on the topic or content on which I am going to answer the questions"*.

Student teacher V, concurred, saying: *"...I am about to take written examination process, I evaluate/assess myself before examination. ... I see it [as] very important and [it] help[s] to prepare yourself. ... I just form questions related to the topic, like in biology you just form questions related to the topic"*.

Student teacher K also echoed the same views and said: *"I prepare questions before the test or examination to asses myself for the topic before examination. ... Self-assessment, it contributes to my learning. When I assess myself, definitely it contributes to my learning. ... When I am out of teaching practice I assess myself [asking] how did I teach? Did learners understand"?*

Student teacher U stated: *"When I am doing [an] assignment, I have to evaluate my own work [to find out] whether I am doing the right thing"*.

Student teacher Y supported the above view as follows: *"Self-assessment? Yes, I do assess myself like if I am given [an] assignment I check it first before I give it to the lecturers"*.

Student teacher W stated: *"I assess myself in test[s] and assignment[s]. In test[s], in that one, I assess myself after I have written the test and then I check where I did not do well so that next time I improve"*.

Student teacher P said: *"Sometimes I do self-evaluation, I do that in test[s] and examination[s]. When I get my examination results, if I get [a] low symbol, I will try to work*

hard and search more information even than the lecturer. ... I assess myself after writing the test; I go through the questions and tick those I got right. ... Based on the information I have mentioned I find self-assessment contributing to my active learning”.

From these personal statements by students one can conclude that self-assessment is indeed being done as reported by the participants. It seems important for student teachers to do self-assessment in their learning because this contributes to their learning and judging their own performance. Through self-assessment students improved in tests, assignments and examinations. It also seems to promote critical thinking and autonomous learning, because when lecturers and teachers permit students to do self-assessment, they encourage students’ understanding and management of reasoning processes.

Similar sentiments emerged from the focus-group interview. For example, one student teacher in the focus group interview said: *“Self-assessment itself is a process of gathering information on your own performance. ... To my understanding it can contribute to active learning if the student is honest about himself/herself and not being bias[ed] for him/her[self]”.*

Another student said: *“From my point of view self-assessment, it’s all got to do with honesty; it is viable when a student is honest. Simply means that when assessing yourself, you should look at all areas where you have done well and where you have done poorly. ... When you are assessing yourself you should bring all this together in order to contribute to active learning. That is my view”.*

Another said: *“I agree, self-assessment helps you see your own mistakes, by that way your learning can improve. ... It is really important to our learning”.*

Expressing a similar view, student teacher M said: *“I think when it comes to assignment[s], test[s] and examinations, I assess myself through writing reflection journals, by looking at my strong points and weak points, like what went well in my lesson and what did not go well”.*

On the other hand, one participant in the focus interview said: *“I disagree that self-assessment contribute[s] to student[s] actively learning, in the sense that in a group, students understand better than when they are working alone or assessing themselves”.*

Other students in the focus-group interview shared the same sentiments. One stated, *“I also agree with the previous speaker. I think self-assessment is not good, because if you assess yourself you will not know every mistake, it is better to be assessed by other students; others will tell you where you need to improve”*.

Student teacher M also said: *“To conclude, self-assessment is good to some extent and it is not good to some extent. Why I am saying this, [is] because, as I said earlier, that sometimes I assess myself and file it without taking it seriously, like that it is not useful... Self-assessment is useful, but the most useful one is when you are assessed by someone not yourself”*.

The latter response differed from responses provided by the other participants in the focus-group interview as well as from those given in the individual interviews. However, some students in the focus-group interview did support self-assessment, saying that it was useful for learning, while others in the focus-group interview indicated that when assessing themselves they would not take it seriously and for that reason it was not good. Others felt that self-assessment helped students to see their own mistakes, and, by doing so, their learning could improve. Therefore, self-assessment generally seems to offer opportunities for student empowerment. This can happen in the form of students changing behaviour to enhance learning and it assists students to know what to improve on.

4.3.3 Students’ views on peer assessment

When asked about peer assessment, the participants indicated that it was relevant because it was viewed as being important for student learning. This became evident from the following statements:

Student teacher Y said: *“Peer assessment also contribute[s] to my learning, like maybe you did something, other[s] will correct you. It is helpful. When you do assessment alone no one will correct you, but when you do it with others they will correct you. I do peer assessment in presentations and group work. In group work, when I do something [wrong], other[s] will correct me, and then you learn from others”*.

Referring to peer assessment, Student teacher V said: *“Ok, at first I find like [it was] wasting time, but now I find it to be crucial, like in [the] case of examination[s] you discuss topics with friends/peers and the peers evaluate you before [the] examination. I find it really very useful. One sometimes in group can come up with the idea that we can make a test for*

ourselves to prepare for a test or examination; you construct question[s] on the topic out of predictions, you give question to your peers/friends to assess each other”.

Student teacher K said: *“Peer assessment definitely, it contributes to my learning, simply that when peers/friends assess me they will correct me, like... write this test in this way; this question you were supposed to put it like this way. In micro-teaching my friends assess me after micro-teaching, they will assess me on the lesson I taught.”* Participant M supported this view by saying that: *“[P]eer assessment I think is more useful. Let me say I present a lesson and my friends they will make comments on my lessons, so there will be valuable comments on my lessons and criticisms, but this [is why] I think peer assessment is more useful.”* She further stated that *“ ... micro-teaching and assignment[s] that [is] where peer assessment is taking place in my learning”.*

Student teacher P said: *“Ja, I find peer assessment more important because sometimes you may judge yourself [on] what you are teaching in terms of micro-teaching, you may find that nothing went wrong but when your friends assess you they may find wrong things. ... so far [it] is only micro-teaching where peers mostly assess me.”* Ms W also agreed with the above statement when she said: *“I always accept ideas from peers/other[s] when I know it contributes to my learning, but sometimes I put question mark[s] to those ideas. ... they also assess me in lower primary course, they always give me more comments on what I should improve on and they give me comments in assignments but not in tests”.*

One student teacher in the focus-group interview said: *“Yes it is true. Peer assessment contribute[s] to student learning because you learn from each other, where you make mistakes; like now I am learning from my peers about self-assessment, because your peers will tell you the truth so that you know better and improve next time”.*

The study furthermore revealed that students were doing peer assessment. Student teacher L said: *“Peer assessment – in my case I don’t really support it, because we have various people, this one may tell me something good or [the] truth regarding something you want”.* Student teacher U said: *“There are two types of assessment, the one where peer[s] encourage you to correct your mistakes: they say ‘you did this wrong, you have to improve on it’, and the other one where maybe they laugh at your mistakes instead of helping you”.*

The responses generally indicated that students were in favour of peer assessment because it improved their learning in active ways. The general viewpoint, gathered from the responses

of the participants, revealed that the participants were aware of the importance of peer assessment and its contribution to their learning. Therefore, improving student learning after peer assessment was considered equally as important as learning before assessment. They regarded peer assessment to be a means of training students' critical thinking and an essential part of learning. Students deemed peer assessment to be useful and adequate towards effecting change in their learning. Compared with lecturer feedback, feedback through peer assessment is immediate. Students viewed peer assessment in a positive light because it improved their confidence and promoted peer learning. These findings thus indicate that student teachers who participated in the study were positively inclined towards peer assessment in promoting active learning.

4.3.4 Students' views on critical reflection

The participants were of the opinion that critical reflection contributed towards students being actively involved in their learning in that it helped them to correct their mistakes and to work on those mistakes. This became evident from statements such as the following:

Student teacher L said: *"I find it very important in whatever you do to reflect on a day to prepare for tomorrow; therefore it is very crucial to always reflect on your work as a student, what you have done wrong and right ... in future that will equip you. ...I have to reflect what was good, maybe I did my assignment and I was told that the assignment was not of [a] good standard"*.

Student teacher U expressed the following views in this regard: *"I always do reflection, especially when doing micro-teaching, doing assignment[s] and [when] writing examination[s]. I also reflect on the grade given to me so that after reflecting, I will aim for [a] higher grade like a B. Reflection contributes to my active learning because you can see your mistakes"*.

Student teacher Y supported this stance as follows: *"Erm, like test[s] and assignment[s]. I do reflect to see that I got it right in the examination and then I do it well. ... Reflection is helping me. Normally I only reflect when I get my test or assignment back from the lecturer"*.

Student teacher V said: *"After reflecting, you will see that this was supposed to be done in this way. ... Ok, most of the time I reflect myself after teaching a topic, although I might not write it mentally, I always reflect [on] what [has] happen[ed] in my presentation"*.

The following statement by Student teacher K supports this view: *“Yes, reflection contributes to my learning in the way that when I reflect on what I [have] learnt, I always reflect on my teaching. Definitely. I find reflection helpful. After reflection I try to see where I went wrong and try to correct it next time when I do it again”*.

In support of the above statement Student teacher M said: *“Reflective – yes, I find it useful when it comes to my learning. ... It helps me to have self-esteem, usually after reflecting it always helps me to improve on my mistakes. ... I also reflect on taking my studies seriously and I like to do my things at the last minute, as a result I find myself being more stressful in that way. I just tell myself that this not the right way of doing things”*.

In further support of the above, Student teacher P said: *“Yes, I do reflect, because like when I prepare myself, I will be able to know that this thing is not right, then I will improve it. Areas where I reflect on are in teaching practice”*.

Commenting on critical reflection, Student teacher W said: *“I reflect only when I got low marks, but when I got low marks I reflect to make sure that next time I don’t get low marks”*

A Student teacher in the focus-group interview expressed herself as follows: *“Yes, I agree that critical reflection helps learners to do better. Those learners who are doing good can be encouraged to keep it up and those who are doing badly can be encouraged to work hard so that they do better next time”*.

Commenting on the same issue, another student remarked: *“Reflection is contributing to student learning in the sense that it helps learners or students to reflect on their learning. ... Also [a] teacher should do reflection so that he/she improves his strategies of teaching.”*

Another student said: *“I agree that reflection contributes to my learning. ... When you reflect on [an] assignment, next time you will perform better than [in the] first assignment”*.

As regards the theme of reflection, participants were in agreement that reflection contributed to their learning being active. The data revealed critical reflection to be important to active student learning as the majority of participants agreed that reflection contributed to this end. It evidently assisted student teachers to improve their learning gain.

4.3.5 Students’ views on the kind of feedback they have found to be useful

According to the participants, feedback was helpful in their active learning. The participants indicated that feedback helped them to learn actively by looking at their own strengths and

weaknesses. Different types of feedback were found to be useful in different ways to students' learning. This clearly emerged from the following responses:

Student teacher L said: *"I prefer orally comments. [With] written comments (feedback), you don't know how he was making it. ... Oral comments help students, because you really reflect the person when he/she was talking to you. ... I always get comments (feedback) in the classroom, but I find it difficult. ... Maybe you are shy and this makes student dormant"*.

Student teacher U said: *"... I find written feedback useful, like [when] you are doing [an] assignment ... [when] you have written examination, written feedback will have to be given to you. ... All comments are useful; with me, I believe I am not perfect, so I accept the comments for improvement. ... the written comments normally happen when you do assignment[s], like micro-teaching, do test[s] and examinations"*.

In support of the above statements, Student teacher V said: *"The teacher/lecturer will give feedback in a written form; this kind of feedback is very useful"*. In this respect student teacher K added: *"The feedback I receive are in oral form and I find it useful, because it will help me to improve. ... This happen[s] in the way that the lecturer will call you in his office and sit[s] to give you feedback"*.

Student teacher M said: *"All feedback is useful in my learning. ... I get written comments (feedback) on the assignments and some they give verbal and written comments together. ... During SBS/teaching practice I get written comments and explanation. ... I also get written comments for tests"*. To add to this, student teacher P said: *"The one I find is like, let me say the one which is written on paper from lecturers or peers. ... I find it useful because when I will try to improve while the orally, sometimes is not good because the way other people present it, [it] might offend; but written feedback you read it alone without someone disturbing you. Sometimes you get negative comments in written feedback. You are not going to quarrel with someone like in oral feedback because you may tell the person that here you lied. ... I find written feedback useful to contribute to my active learning"*.

Making a point well, student teacher W remarked: *"What contribute to my learning are the negative comments, because I will try to work on them and improve next time so that my learning can improve. ... Both written and oral comments (feedback) they are good and sometimes they are bad. ... But for me the most useful ones are the oral comments because that is the way you can improve. ... I get feedback by giving me my results"*.

A student teacher in the focus-group interview said: “*Ok, negative feedback can help me to work hard and positive feedback doesn’t encourage me to work hard, but negative feedback makes me to work hard.*” Another said: “*I like negative feedback because it will make me to work hard next time so that my learning can improve*”.

The overwhelming majority of participants indicated that feedback improved their learning. One of the student teachers pointed out that even negative feedback helped him to work hard in order to improve his learning. Findings obtained from the data confirm that feedback seems to play a vital role in improving student learning. Participants spoke extensively about positive and negative feedback and how each contributed to active learning. It appears that the majority of the participants were in favour of written feedback rather than oral feedback. One may therefore conclude that written feedback is imperative in higher education as it seems to assist students to improve their learning.

4.3.6 Students’ views on what they needed to do to be more actively involved in their own learning

The participants were of the opinion that they could improve their learning through reading books in the library, class discussions and searching for information on the Internet. This emerged from responses such as the following:

Student teacher L said:

Erm, what I think most best thing which I to do in my case so that I can Improve, I think my lecturers should try to involve me in class discussion[s].To say the truth, when you are appointed in [a] discussion to say something in the class of fifty students, you really feel strong that you tried. ... I also think that providing us with some of the materials that are useful. .. Sources of information are many such as Internet. Nowadays we are talking about technology. You also find useful information in the library, reading books, magazine[s] and newspapers which are useful that contribute to academic work.

Student teacher W echoed the above by saying: “*Other sources where I get information to improve my learning results are library, reading different books in the library, even going to internet to search information, there are always information on internet available. ... Consulting many sources will help you to understand the topic better*”.

Student teacher Y Stated: *“Erm, yes, as I said before, pair work and group work where they give you something to present – in that way you are learning. ... Books in the library are helpful if [you] consult different books then you have the opportunity to compare ideas. ... By reading books my results will improve. ... Like us student[s] we get information in the library, but you can also get information on Internet”*.

Student teacher V expressed his views as follows: *“Ja, I think one of the thing[s] I have to do is as to find some peers who are also much in my area who are better and interesting in learning. ... When you find peers who are active, you benefit from them”*.

Student teacher K said: *“I have to put more time to study and also I must read materials related to my work. ... On internet I search information; I can improve my results by asking lecturers on certain topics, for example, I have a problem with a topic in English, and I can go to that English lecturer and say, ‘Could you please help me on this topic.’”* Student teacher M said: *“I can improve my results through reading books in the library; sometimes I get information from Internet”*.

Student teacher P commented: *“Ja, the most important thing is you must work with friends... The other way is to work hard to improve my results and I get information through searching books in the library and Internet to search for information”*.

Student teacher U stated: *“With me, if I listen to radio while studying I concentrate much that [when] just read[ing]. ... Reading without listening to radio, my mind is dead. ... Reading and listening at the same time will make me to concentrate by listening to music. ... The other ways of improving my learning results is by asking peers about the topic and go to the library to look for books to read concerning the topic I am doing. ... The last one is search information on Internet”*.

Some student teachers in the focus-group interview shared the same sentiment. One said: *“I think I will make the lesson more learner-centred so that they discover new things for themselves so that [when] they write examination[s] they can remember what they have discussed in the class.”* Another said: *“I will use many activities in the lesson so that they can come up with their own ideas how it can be done”*.

From these statements by students one can conclude that the Internet, the library and discussion appear to play an important role in improving students’ active learning efforts.

Both the library and the Internet seem to be vital in higher education as they are all sources of information required by students.

4.4 CONCLUSION

The general view gathered from the responses of the participants is that the students participating in my study demonstrated a positive orientation towards active learning through self-assessment, peer assessment and reflection. The participants also indicated that feedback played a useful part in their learning.

This chapter presented data collected from different sources and organised these by using the six main themes that were identified. The next chapter comprises a discussion of the research findings by relating the data to relevant literature. The chapter will also focus on the conclusions regarding the findings and the implications of these findings. The limitations of the study will also be presented.

CHAPTER 5

DISCUSSION, CONCLUSIONS AND IMPLICATIONS

5.1 INTRODUCTION

This chapter discusses and interprets the findings from the empirical part of the study as presented in Chapter 4. These findings are discussed in relation to the literature review presented in Chapter 2 so as to contextualise and interpret the findings of the study. Conclusions are drawn based on the empirical findings of the study and related to the literature overview. Some implications of active learning through self-assessment and peer assessment and reflection are also pointed out. Finally, some of the limitations encountered in this study will also be highlighted.

5.2 DISCUSSION OF THE EMPIRICAL FINDINGS

As pointed out in Chapter 1 (paragraph 1.3), the purpose of this study was to determine the perceptions held by second- and third-year students regarding how self-assessment, peer assessment and reflection may contribute to their learning being more active in one of the campuses of the University of Namibia (formerly the Rundu College of Education). In order to investigate how students perceive active learning through self-assessment and peer assessment and reflection, data were gathered by means of interviews, focus-group interviews and observations. A discussion of the findings regarding second- and third-year students' perceptions of active learning through self-assessment and peer assessment will be dealt with next.

5.2.1 Participants' views on active learning

Findings regarding active learning disclosed that second- and third-year student teachers are aware of how active learning may be enhanced through self-assessment, peer assessment and reflection.

The data also revealed that most of the participants were in agreement that active learning takes place through participation in among others discussions, pair work and group work, listening, talking, reading books, writing, research, and answering questions – all of which all may contribute to promoting a learner- or student-centred approach. In confirmation of this perception, the most participants indicated that active learning involved more active participation in class as indicated in Section 4.3.1. In addition, the literature perspectives

support the views of participants, indicating that active learning involves providing opportunities for students to talk meaningfully and to listen, read and reflect on the content, ideas, issues and concerns of an academic subject. The literature also points out that active learning empowers students to take primary responsibility for their learning.

It appears that when students are involved in more than listening, less emphasis is placed on transmitting information and more on developing students' skills in higher-order thinking (analysis, synthesis, evaluation). Moreover, when students are engaged in activities (e.g. reading discussing, writing) greater emphasis is placed on students' exploration of their own attitudes and values (Bonwell & Eison, 1991). This view is supported by the findings of the classroom observations that indicate that active learning within the classroom context is influenced by the quality of interaction that takes place between the lecturer, the teacher educator and his/her school learners.

During classroom observations, the following subjects were observed: education theory and practice, agriculture studies, social studies, Rukwangali (home language) and English. It was clear that the majority of the student teachers applied similar skills in different subjects, thus demonstrating forms of active learning. All student teachers appeared to be actively engaged in the group activities through reading, writing, speaking, asking questions, presentations and challenging activities that extracted forms of higher-order and critical thinking.

On the issue of active learning and passive learning, most of the participants in the focus-group interviews mentioned that active learning occurs when students are more actively participating in lessons, whereas during passive learning the students do the minimum or even nothing; in particular, they do not engage in educational research activities and everything is done by the teacher. Participants were adamant that active learning takes place when students are involved in activities such as writing, talking and listening. Therefore active learning is an approach that requires students' participation and encourages students to generate their own ideas and provide opportunities for questioning and critical thinking.

Literature seems to confirm that active learning asks that students to use content knowledge and not simply acquire it. This implies that active learning may well improve students' comprehension, retention and overall learning through hands-on activities. Students therefore need to hear, see, question, discuss, use and teach content. Student teachers in particular need to interact with others to construct meaning from new ideas and concepts based on their

background knowledge. In teacher education, active learning and interaction appear to be crucial to student learning (Cameron, 1999; Silberman, 1996).

Overall, findings on the issue of active learning in the study point to the fact that student teachers at the Rundu Campus of the University of Namibia were all too aware of the significance and value of active learning and the techniques that promote it. Also, literature points, on the one hand, to the need for active learning in order to promote exemplary teaching. On the other hand, it advocates for student teachers to apply active learning principles and practices in their own learning and teaching practices. This raises the question about findings on the potential role of self-assessment and its possible role in active learning.

5.2.2 Participants' views on self-assessment

Findings in the study indicated that an overwhelming majority of the participants of student teachers agreed that self-assessment contributed to their learning being more active. Some of the participants indicated that they always assessed themselves when preparing for examinations, tests and assignments. They did so by preparing a set of questions based on the topics covered. One participant stated that she assessed herself through self-reflection. The majority of the participants confirmed that self-assessment was useful with a high degree of correspondence between participants' perceptions of self-assessment. Most of the participants in the focus-group interview stated that self-assessment contributed to active learning only when students were honest about themselves. In addition, literature seems to confirm that self-assessment is a viable tool for effective learning because it provides students with an opportunity to take responsibility for their own learning and gives them greater learning ownership. The literature also indicates that self-assessment refers to people being involved in making judgements about their own learning and progress, which contributes to the development of autonomous, responsible and reflective individuals. In addition, perspectives from literature uphold the view that self-assessment involves students in identifying standards and/or criteria to apply to their work and to make judgments about the extent to which they have met such criteria.

However, during the interviews one participant entertained a different view regarding self-assessment; she maintained that self-assessment was positive and to some extent negative in that sometimes self-assessment was not taken seriously by the assessor. In this context, self-assessment may not be useful. Also, during the focus-group interviews, two participants disagreed with the idea that self-assessment contributes to students actively learning in the

sense that, in a group, students understand better than when they are working alone or assessing themselves. To them it seemed more valuable to be assessed by other students, because peers will tell one where to improve.

In view of the above, it seems possible that students may also hold negative perceptions of self-assessment. Overall, however, findings on the issue of self-assessment in the study point to the fact that student teachers at the Rundu Campus of the University of Namibia were knowledgeable about the importance of self-assessment so as to improve their learning (also see Gravett, 1995; Sambell, McDowell & Brown, 1998).

5.2.3 Participants' views on peer assessment

The findings made it evident that peer assessment is important in student learning. The majority of the respondents explained how peer assessment contributed to their learning being more active. Peer assessment involves peers or friends assessing one another by providing positive or negative comments. This implies that students will have the opportunity to look at both the positive and the negative comments and improve on the negative comments. This helps students to be informed about the areas of improvement they did not identify during self-assessment. In respect of peer assessment, all of the participants in the group interviews were of the opinion that peer assessment promoted active learning.

The relevant literature supports the idea that peer assessment practices are intended to empower students to make decisions that contribute to the individual's experience or learning. Furthermore, literature bolsters the fact that peer assessment – because of its focus on dialogue and shared interpretation of teaching and learning between staff and students – is particularly useful for supporting reflective practice in higher education. This entails that students learn from one another and use the feedback provided by peers to inform their own learning. The literature further seems to confirm that peer assessment can provide numerous benefits to students. Also, peer assessment has the advantage of helping students to examine their learning critically.

The literature appears to indicate that peer assessment is a process in which students assess the quality of their fellow students' work and provide each other with feedback. Teachers therefore use peer assessment and self-assessment to enhance learning. Four purposes of peer assessment and self-assessment were identified from the relevant literature: (1) to increase student involvement in the learning process (for example, students assume teaching

responsibilities); (2) to increase social interaction and trust in others; (3) to facilitate individual feedback; and, (4) to focus students on the process rather than the product. Based on the above, one may conclude that peer assessment and self-assessment are limited to formative assessment and thus not suitable for summative assessment of learning (Gagnon & Collay, 2001; Johnson, 2004; Reiders & Lazaro, 2007; Stefani, 1998; Van den Berg, Admiraal & Pilot, 2006).

Only one participant in the study had a different view on peer assessment. He asserted that he did not support peer assessment, simply because in this kind of assessment one peer encourages one to correct one's mistakes when one has done something wrong, whereas others may be laughing at mistakes instead of having a helping attitude. In support of the above statement, the literature supports the view that students feel ill equipped to undertake peer assessment. Concerns were also raised by participants about the validity and reliability of the marks given by students because of their lack of expertise. Further issues were potential bias, discomfort with the extra responsibility, a lack of formal training, and the perception that assessment was the tutor's responsibility. The most important disadvantage stressed in the literature is potential bias (Cassidy, 2006).

In this study, students were asked to indicate their views about whether and how peer assessment may have contributed to their learning being more active. Findings in this regard indicated that the majority of the participants agreed that peer assessment contributed to their learning actively. These findings are supported by my experience as a College lecturer, since all second- and third-year student teachers at the Rundu Campus of the University of Namibia do peer assessment during both teaching practice and micro-teaching. Student teachers' perceptions were overwhelmingly positive about peer assessment used so as to improve their learning. In view of the above, it seems clear that student teachers may use peer assessment productively in learning more actively.

5.2.4 Students' views on critical reflection and its contribution towards their being actively involved in their learning

All the participants indicated that critical reflection contributed to students being actively involved in their learning because it helped them to correct their mistakes and work on those mistakes for improvement. The participants contended that reflection was important to prepare for the future. Participants mentioned that they reflected on the following areas: teaching practice, examinations, micro-teaching, tests, taking studies seriously and when they

obtained low marks, because after having reflected they would see where they needed to improve.

It is evident from the interviews that all participants concurred that critical reflection contributed to students being more actively involved in their learning. This was also prominent in the focus-group interviews where five participants concurred that critical reflection assisted towards them being more actively involved in their learning.

Authors on the topic (e.g. Biggs, 1999; Day, 1999) also confirm that critical reflection helps to raise one's awareness of oneself and one's learners with a view to directing and changing learning. Failure to engage in systematic and conscious reflection of their own practices as educators, professionals are unlikely to be able better to understand their own motivations and biases in the formation of the knowledge they encourage others to learn from. Some authors also point out that a reflective teaching model provides a framework for teachers systematically to observe, experience and reflect upon teaching and learning, and they thus learn to challenge and explore their own teaching practice (Kilpatrick, Hurt, Najee-Ullah & Mitchem, 1997). In this sense, the exercise of reflection appears to enhance student learning positively.

Students' positive perceptions of learning through critical reflection may also be influenced by experience during teaching practice. The literature (Burns 2002; Reid, 1993) points out there is a widely held view in adult education that experience is the central pillar of learning. However, in order to learn from experience one needs to reflect on such experience. In addition, reflection is a process of reviewing and experiencing or practicing in order to describe, analyse, evaluate and thus to inform learning about practice. What further supports this point is that in my experience, student teachers do indeed reflect on their learning experience when they are doing teaching practice. The literature in this instance (Burns, 2002) contends that the essence of learning from experience is to be found in the relationship between the learning and the context, in the vital process of noticing, being aware of what has happened and taking action. The supporters of critical reflective practitioners ought to exercise a democratic leadership style. The principle that underpins this is that democratic leadership requires teachers to have their lessons open to scrutiny by other teachers and learners.

Of equal importance to students' active participation in their learning skills pertain to reflection. The literature (Osterman & Kottkamp, 1993) notes that reflection works more

effectively at higher levels of learning such as making and working with meaning and transformative learning. The literature also seems to confirm that reflection is a means by which practitioners can develop a greater level of self-awareness about the nature and impact of their performance. Critical reflection includes the ability of the teacher to be able to reflect upon practice in a critical fashion so as actively to improve current practices through a process that involves systematically evaluating a range of complex factors resulting in a judgement or decision about a course of action or future response (Moon, 1999; Watts & Lawson, 2009). This implies that applications of reflection in learning may contribute to improved student-teacher practice.

One participant in the focus-group interview held a different view regarding reflection. He preferred the teacher to comment on the effectiveness of students' learning, taking into account students' abilities. In this context, I would disagree with the specific participant's view that only teachers should reflect. My experience in working with student teachers is that students reflect on every lesson they present during teaching practice. This helps students to improve on their next lesson. Authors such as Kilpatrick and others have pointed out that it is important for teachers to relinquish intellectual authority and to learn to value various perspectives, to honour knowledge gained through experience and/or to respect and value the reasoning and thinking of different students. In addition, it serves the purpose of encouraging collaboration between teachers and students through effective communication as teachers attempt to execute appropriate ideas from learners and thereby stimulating all students' intellectual growth (Kilpatrick *et. al.*, 1997).

Regarding the use of reflection in learning, student teachers indicated that the majority of students supported critical reflection in their learning and only one student had a different view regarding reflection. This means that students acknowledge the importance of critical reflection in learning. My experience as a teacher educator, and evidence from the literature examined lead me to postulate that critical reflection enhances the quality of teaching and learning. However, effective critical reflection is determined by the opportunity for the student to achieve an appropriate mindset for reflecting and is in turn related to the nature of the physical environment in which reflection is expected to take place. The ability to reflect is further determined by the knowledge the student possesses.

5.2.5 Students' views on the kind of feedback they found to be useful in helping them to learn actively

In respect of this theme, it was established that students found feedback to be useful. Students generally felt positive about receiving feedback as it helped them to learn actively by looking at their strengths and weaknesses. During several interviews students found oral and written feedback useful in helping them to learn actively. One participant acknowledged that oral comments helped students to reflect on the person while he/she was talking to you. These kinds of feedback happen in the classroom. Written feedback is given to students when they do assignments, during micro-teaching and in tests.

One participant said that negative feedback contributed to his learning, because it helped him to work on it and improve next time around so that learning could improve. In addition, the student commented that both written and oral feedback were good and sometimes even bad. During the focus-group interview most of the participants indicated that negative feedback was useful in that it helped students to come with different strategies to improve their learning in the next assessment. However, two participants stated that positive feedback was good because it made students feel better when they received good comments (feedback). All respondents appeared to agree that both negative and positive feedback were essential in helping students to learn actively.

The literature (Hattie & Timperley, 2007; Hyland, 2000; Mutch, 2003) indicates that feedback is an essential component in all learning contexts and serves a variety of purposes, including evaluation of students' achievements, development of students' competencies and understanding and elevation of students' motivation and confidence. The literature further states that, to be effective, feedback needs to encompass more than an appropriate explanation or justification of the assessment given (Hyland, 2000; Mutch, 2003). It needs to be prepared as timely and relevant to the student's future studies, focused on valued and attainable objectives, aware of student's own perceptions, and sensitive to the range of responses that various kinds of criticism and advice might prompt. Feedback must also assist students to take greater responsibility for their own learning. It is crucial that feedback be seen as a developmental activity, but to focus solely on individual practice might be to miss out on the full range of conditions that make for effective use of feedback.

Literature (Brown, Bull & Pendlebury, 1997; Kneale & Collin, 1996; Race, Brown & Smith, 2005) also seems to confirm that the most improvement in student learning occurs when

students receive feedback about a task, how to do it more effectively and whether it is clearly related to the learning goals. This resonates with the students' views on feedback in that many students indicated that they found feedback to be useful in their active learning. Written feedback can take the form of handwritten comments, word-processed comments, model answers, assignment return sheets, class reports and codes. Feedback can be used by students to make comparisons with the assessments of and feedback from their peers. The bulk of the participants indicated that they preferred written feedback rather than oral feedback. Thus, it may be concluded that student teachers generally perceive the use of feedback to be vital for active learning.

5.2.6 Students' views on what they needed to do in addition to be more actively involved in their learning

Of the students interviewed, several were in agreement that they could improve their learning through reading books in the library and searching for information on the Internet.

I argue that it may be important for student teachers to enhance their learning through actively reading books and searching for information on the Internet. Some findings that emerged from the interviews centred on the students' feelings about improving their learning. One participant commented that the other means of improving the results of learning were asking peers about the topic and going to the library to find books to read on the topic. The impression exists among students that peers could also help to improve their own learning results if they worked together, sharing information. Another participant indicated for instance that motivational activities should be incorporated in teaching and learning because motivation enhances learning. The interviews made it clear that students' learning results could be improved through a variety of ways of acquiring information. My experience as a lecturer at a college of education has led me to observe that the library and the Internet are indeed very important in student learning, because they assist students in acquiring relevant skills for future use as teachers.

5.3 CONCLUSIONS

Based on the above-mentioned empirical findings and the literature review the following conclusions can be drawn regarding student teachers' perceptions regarding self-assessment, peer assessment and reflection and how these may contribute to active learning.

The findings from the study revealed that second- and third-year student teachers at the Rundu Campus of the University of Namibia (formerly the Rundu College of Education) had positive views regarding active learning. As a result, students also perceived active learning to have developed their critical thinking skills. The study found that second- and third-year student teachers had different views on self-assessment. Some viewed self-assessment as contributing to active learning while others saw self-assessment as not contributing much to their learning as being active. Those on the positive side took such a view because they perceived self-assessment as forcing them to engage in deeper forms of learning. The positive perceptions also seem to have been attributable to the fact that most second- and third-year student teachers had prepared sets of questions to assess themselves while preparing for examinations.

Peer assessment was found to be useful in contributing to active student learning by the majority of the participants in the study. Based on how students reacted to critical reflection, it appeared that they viewed this as an important element that contributed to students' active learning. On the question of feedback, all participants agreed that different forms and levels of feedback were important in promoting their learning more actively outside of the 'formal' learning environment. The use of the library and the Internet were also found to be helpful in student teachers' active learning. From these different data sets and the literature consulted one may argue that self-assessment, peer assessment and reflection indeed seem to enhance active learning – particularly in a teacher-education environment such as the university where the study was conducted.

5.4 IMPLICATIONS OF THE FINDINGS OF THE STUDY

5.4.1 Implications for teacher education at the Rundu Campus of the University of Namibia

From the study it seems significant that teacher education institutions such as the Rundu Campus of the University of Namibia devise strategies that promote active learning through self-assessment, peer assessment and reflection in order to provide student teachers with the necessary knowledge and skills in these areas before they start their careers as teachers. Students must enter classes well prepared to do activities in the classroom. Teacher education at the Rundu Campus of the University of Namibia should develop student teachers who are competent and innovative users of active learning approaches that comprise problem-based learning, discussion methods and cooperative learning. Student teachers need to be provided

with opportunities to reflect on their own learning so that they can share experiences with their peers and discuss problems encountered in their learning.

The findings from this study also imply that teacher training at the Rundu Campus should offer student teachers ongoing support for the fostering of active learning through self-assessment, peer assessment and reflection. Everyday activities should present opportunities for self-assessment, peer assessment and teacher educator feedback. A variety of strategies that promote active learning, such as cooperative learning, problem solving, group work, class discussions, pair work and higher-order thinking seem to be the ideal. This implies that students should draw on composite knowledge that would provide student teachers with ample opportunities for critical reflection and practice. In addition, the library and the Internet at the Rundu Campus of the University of Namibia emerged as essential sources of information in contributing to the active learning of student teachers. The institutional leaders should make sure that these facilities are well available to student teachers.

5.4.2 Implications for further research

This study has raised a number of issues that are critical towards improving student teachers' active learning through self-assessment, peer assessment and reflection.

The study involved mainly student teachers. An implication for further study would be an in-depth look at the educators (university lecturers) and their perceptions of active learning. An important topic for further research would be to establish what educators could do to promote active learning amongst their students from a teaching or learning facilitation perspective.

Another implication of the study, because of its limited nature, is a need for further similar studies at colleges in other parts of Namibia in order to establish whether the findings can be generalised to other contexts and students.

5.5 LIMITATIONS OF THE STUDY

This study focused on student teachers' perceptions of active learning through self-assessment, peer assessment and reflection. The study was limited to student teachers pursuing a BETD Programme at the Rundu Campus of the University of Namibia. The first limitation of this study is the number of participants selected. McMillan and Schumacher (1997:505) maintain that although qualitative research implies only a selected number of participants, the results cannot be generalised. This means that the selection of sixteen student

teachers was a limiting factor in the study. The interviews conducted for this study did not involve every student teacher pursuing the BETD Programme at the Rundu Campus of the University of Namibia, but only a fraction (8%) of the student teachers were chosen to participate in the study. Notwithstanding the limitations, data gathered for this study nevertheless highlighted important areas to a better understanding of the perceptions of student teachers regarding active learning through self-assessment, peer assessment and reflection.

5.6 CONCLUDING REMARKS

In order to develop a wider understanding of the concept of active learning, further research is required to investigate the perceptions of all stakeholders at university. This kind of research has the potential to offer a broader opinion of why active learning is vital and how it can be implemented effectively. Participants attested to the fact that active learning requires students' participation in the form of discussions, asking questions, answering questions, pair work, group work, talking, reading and writing, and offering opportunity for critical thinking.

It is also crucial to investigate the impact of self-assessment, peer assessment and reflection on promoting active learning among both lecturers and students. Active learning is very helpful for changing approaches to teaching and learning. It supports the potential for providing quality education development in teacher education. It appears as a strong unifying approach to learning that enables the sharing of knowledge and experience. Student teachers may benefit greatly from being encouraged and enabled to conduct self-assessment, peer assessment and reflection in respect of their learning. This may not only help them towards a better understanding and use of active learning through pre-service training but also assist them to apply these strategies and skills in their own classrooms when they become professional teachers.

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APPENDIX A: ETHICAL APPROVAL



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jou kennisvennoot • your knowledge partner

18 July 2011

Tel.: 021 - 808-9183
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Reference No. 558/2011

Mr A Muhapili
Department of Curriculum Studies
University of Stellenbosch
STELLENBOSCH
7602

Mr A Muhapili

LETTER OF ETHICS CLEARANCE

With regards to your application, I would like to inform you that the project, *Exploring student learning through peer assessment, self-assessment and reflection in a Namibian college of education*, has been approved on condition that:

1. The researcher/s remain within the procedures and protocols indicated in the proposal;
2. The researcher/s stay within the boundaries of applicable national legislation, institutional guidelines, and applicable standards of scientific rigor that are followed within this field of study and that
3. Any substantive changes to this research project should be brought to the attention of the Ethics Committee with a view to obtain ethical clearance for it.

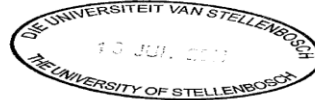
We wish you success with your research activities.

Best regards



Sidney Engelbrecht
MR/SF ENGELBRECHT

Secretary: Research Ethics Committee: Human Research (Humanoria)



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APPENDIX B: INTERVIEW SCHEDULES

INDIVIDUAL INTERVIEWS

1. What are your views on the concept 'active learning'?
2. Do you find self-assessment to contribute to your being actively involved in your learning? If so, in which respects?
3. Do you find peer assessment to contribute to your being actively involved in your learning? If so, in which respects?
4. Do you find reflecting critically on your learning to contribute to your being actively involved in your learning? If so, in which respects?
5. What kind of feedback have you found to be useful in helping you to learn actively? How did this happen?
6. Is there anything you think you need to do to involve you more actively in your learning to improve your learning results?

FOCUS-GROUP INTERVIEWS

1. What are your views on the concept 'active learning'? How is active learning different from passive learning?
2. Do you think self-assessment might contribute to students being more actively involved in their learning? In which respects?
3. Do you think peer assessment might contribute to students being more actively involved in their learning? In which respects?
4. Do you think critical reflection might contribute to students being more actively involved in their learning? In which respects?
5. What kinds of feedback have you found to be useful in helping you to learn actively? How did this happen?
6. Is there anything you think you need to do to involve students more actively in their learning so that their learning results may improve?

APPENDIX C: INSTITUTIONAL APPROVAL, RUNDU COLLEGE OF EDUCATION

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OFFICE OF THE DEPUTY DEAN: RUNDU CAMPUS
Mr. Mpasi E. N. Katewa

Mr Andrew M Muhapili
University of Namibia – Rundu Campus

Friday, March 25, 2011

PERMISSION TO CONDUCT RESEARCH

I acknowledge receipt of your letter dated 25 March 2011.

In response to your request with reference to institutional permission to conduct a research, I wish to inform that your request has been **approved**.

Sincerely


Mr M. Katewa
Deputy Dean

APPENDIX D: LETTER TO THE STUDENTS REGARDING INFORMED CONSENT

Dear Students

I should like to ask you to participate in this research project that I am conducting as part of my research towards a Master's in Education at Stellenbosch University. The aim of this research project is to explore students' active learning through self-assessment, peer assessment and reflection.

I am interested in learning from you about how you experienced participating in the peer assessment, self-assessment and reflection that formed part of your learning process.

Please read the following and, if you are willing to participate in the research, kindly complete the consent form at the end of this document. Kindly note that you are under no obligation whatsoever to participate in this research project.

I am a student at Stellenbosch University conducting research as part of an MPhil in Higher Education. I am a lecturer responsible for educational psychology and inclusive education at the Unam-Rundu Campus.

If you are willing to participate in this research you will be asked to participate in a focus-group discussion and in individual interviews. During this focus-group discussion interview you will be requested to share your opinion on and experiences of taking part in self-assessment, peer assessment and the reflection process. All of the focus groups and interviews will be electronically recorded and transcribed. The transcriptions will be made available to you for comment so that they reflect accurately what you have said. Should you require further information, please contact me on cell: 0811276954.

Confidentiality is assured and any names used in the final report will be fictitious. If you agree to participate in the research, please sign the consent form.

Thank you

Yours sincerely

A.M. Muhapili

APPENDIX E: INTERVIEW TRANSCRIPTIONS

1. What are views on the concept *active learning*?

Active learning	
S1 L	Active learning! Yes, thank you very much for the question. According to my own understanding, when we are referring to active learning ... erm ... I will be using [an] example in my explanation. This involves [that] when a teacher is teaching, therefore learners have to participate in the classroom; this participation which I am talking about is not only individual learners but everyone have [<i>sic</i>] to participate in the classroom and learners have also to feel free to say anything and acknowledgement also is always needed from the teacher. That is according to my understanding.
S2 U	My views on that concept are that it is more of the participation in the class ... learners/students answering questions from the teachers. Students asking questions to the lecturers and lecturers asking question to students in the class; just that participation or either students ask questions in the class. It is that participation between students themselves and lecturers. In active learning students participate, discuss things with their lecturers, asking questions, supplementing on the topic.
S3 Y	Erm ... active learning ... erm ... is a technique which [is] normally used by teachers whereby they give ... erm ... activity to learners to do instead of just keep on listening, but they also involve learners' attention whereby they give them activity to do. In active learning, [the] teacher can give work, like pair work, whereby students can work in pairs and groups. Yes like in pair work, students come up with different answers that one don't [<i>sic</i>] know, like prior knowledge, so that they can share and after that let them present a lesson and other[s] may learn from each other. I find active learning so much helpful, whereby it involves learner-centre[d] approach.
S4 V	OK, to my point of view, I see active learning as [a] learning process which involves the participants or someone who is learning to be actively involved in learning, whereby it involves something like practical. That is how I understand the word itself <i>active learning</i> . Ja, for example in the class the teacher and learner, all they are involved in [the] learning process; [it] is not like someone

	<p>who is passive. Active learning in Namibian context it has to do with learner-centred education which is recommended in Namibia. It has to do with learners themselves [who] have to be actively involved in their learning. They have to do activities which are given to them by the teacher. When the teacher give[s] work to learners – those who [are] involved – have to do the work. Erm ... example of active learning is group work; it gives [an] opportunity to learners to participate, given the fact that the teacher has to monitor the situation in the class.</p>
<p>S5 K</p>	<p>Thank you for the question. Erm ... active learning is a process whereby you have to learn the way you understand it and try to put it into practice. Examples of active learning [are when] students answer questions. Let me say, a lecturer takes a topic in multigrade class and ask[s] the question and students try to answer the question. In that case you may say students are actively learning. Students can also learn actively when they do more practical, like sitting in groups and discussing activities.</p>
<p>S6 M</p>	<p>Uhm ... I think from my understanding, active learning has to do with the involvement of students [and] lecturers' contribution from students and lecturers. When we talk of active learning maybe in high schools, there it has to do with involvement of the learner in the lesson rather than the teacher speak[ing] each and every time. Aspects of active learning are the following: I think active learning can be enhanced by students being given [the] chance to talk and also by using different strategies like pair work, group work and individual work. For example when I talk about pair work, students are grouped in pairs or in groups; each one will contribute in pair work and group work and they will learn from each other. One can be appointed to represent the group; by doing that they are (being) actively learning. Uhm ... OK, I think as a teacher/lecturer sometimes in the class there may be students who are barriers in the class; some students may not contribute because of, if they contributes [sic], some ways their friends will laugh at them and that can destruct active learning. So the lecturer/teacher must be careful that every student is free to participate without any fear.</p>
<p>S7 P</p>	<p>Ja, well ... active learning is like when you are engaged in your work, able to do something by getting information on something. It shows eager[ness] to work hard. For me, what I used to do [was] I [would] go to the library or the computer lab to search [for] information I need[ed] for my problem. In the classroom situation active learning is when the lecturer [who] is teaching [and] ask[s] questions and I participate through answering the questions. I participate by</p>

	<p>raising my hand to give the answer. That shows that you are participating actively in the lesson. I would say, when I am listening to the lecturer when he is teaching is part of active learning, because the information you are receiving, you can apply it in your daily life.</p>
S8 W	<p>Active learning ... well with that one ... I think is when student[s] participate in activities, especially classroom activities; that is when by then they take their education seriously they read their books, they do research, group activities; also get information when they think it is necessary, they do their work. [They are] not lazy but they work hard to do their work. Well, also by how they express themselves by answering questions [and] participating in the activities that are happening in the class.</p>

2. Do you find self-assessment to contribute to your being actively involved in your learning? In which respects?

S1 L	<p>Very much. Erm ... when we are talking of self-assessment, as may be you did a mistake on something, you have to assess yourself. What did go wrong and what was good, because people misunderstood between reflection and assessment, but assessing is how good you are on something. Self-assessment is like I am preparing for the examination, it is very good that I have to prepare some questions which will equip me for examination and prepare me. I have at least assessed myself. In which respect? More specifically, let me use [the] example of myself: whenever I have [a] task to do, I have to prepare questions for myself, based on the topic or content on which I am going to answer the questions, because I have ... be ... distance with my books. This will help me to answer the questions as if I was writing examination and this will help me to answer the question correctly.</p>
S2 U	<p>Erm ... uhm ... I find self-assessment to be helpful in our case ... you know too, in our case, student teachers, when you are teaching in front of others, while they comment on your lesson. Self-assessment is a process for instance when I am doing [an] assignment, I have to evaluate my own work, whether I am doing the right thing; ask myself questions like did ... what I wrote here, is what I want to mean or maybe there is [a] grammatical error. Self-assessment it encourages me to be actively involved in the lesson. In which respects did I assess myself? Like, as I said earlier, when I am doing [an] assignment or when I am teaching, I know I make mistake[s] and I do not think I will repeat it again.</p>

	<p>When I do [an] assignment I really assess myself before I give it to the lecturer. Did I really answer the question as expected? There are also times when I quote from books like <i>Mwamwenda</i>. Then I ask myself, did I really quote correctly and did I supplement the quote. I do assess myself in test[s], and sometimes we omit some words. Sometimes when you think the sentence means the right thing but in the end it means something else. That [is] why it is important to assess myself.</p>
<p>S3 Y</p>	<p>Uhm ... self-assessment itself ... uhm ... can contribute to my learning, whereby a teacher can assess things that he taught. Self-assessment refers to learners/students assessing themselves; like yesterday, I did not do well the thing, then I will try to assess myself so that next time I[’ll] do it better. For example, if I do the work [and] out of 10, I got 5 out of 10, then I will assess myself so that next time I get excellent. Uhm ... self-assessment, yes I do assess myself. Like if I am given [an] assignment, I check it first before I give it to lecturers. Like ... I am reflecting on the work I have done, I am helping myself ... like I have answered the question or not. I assess myself when I am writing a test – maybe I didn’t do well, [then] I [will] assess myself to check if I have done well or not.</p>
<p>S4 V</p>	<p>OK ... self-assessment ... before I will go in[to] details, I might understand self-assessment in a wrong way, but how can I understand self-assessment? It has to do with you evaluating yourself. Coming to the question ... Ja, personally, I find it very crucial in helping me in learning. Let me say, I am about to take [a] written examination (process), I assess myself before examination. I see it [as] very important and [it] help[s] to prepare you. One of the ways I assess myself in mathematics, because mathematics has nothing to do with memorisation. First, I will read through certain calculations. From that I give myself certain work to do. In that way, I assess myself. I will cross check to see if I got the right answer before writing [the] examination. I just form questions related to the topic, like in biology you just form questions related to the topic. In that way, you just go direct[ly] to the answer.</p>
<p>S5 K</p>	<p>Could you please the repeat the question? OK, definitely, I find it useful in the way that I assess myself. In that way, I catch up what I was taught. Self-assessment contribute[s] to active learning. Uhm ... all right, I assess my own work in my area of specialisation, like in Rukwangali [mother tongue language]. For example, maybe we were taught certain things and then I will try to do some practice on certain things. In that way I assess myself. I prepare questions before the test or examination to assess myself for the topics before examination. Self-</p>

	<p>assessment it definitely contributes to my learning. Is like we were taught certain things and when I assess myself it contributes to my learning. Ja, another area where I assess myself is teaching practice. I assess myself by asking questions such as: “How did I teach?” [and] “Did learners understand”? I look at the mistakes that I made and try to improve on them; in that way it contributes to my learning.</p>
<p>S6 M</p>	<p>Self-assessment? At first I would like to know the definition of self-assessment. From my views, self-assessment, maybe it means student[s] assessing your own work rather [than] being assessed by someone. In that case, self-assessment ... yes, to some extent it might be useful. You might know then mistakes yourself in your own learning. On the other hand, to someone who is lazy or someone who is not serious he/she may take [a] chance not assess himself. For instance, I present a lesson, I may decide not to assess myself because I may not consider weakness and strong points. In which respects? Ah, mostly I assess myself when it comes to lesson presentations. What I mean by that is ... Micro-teaching ... during teaching practice or school-based studies. When it comes to assignment[s], tests and examination I assess myself through writing reflection journals by looking at my weak points ... like ... what went well in my lesson and what did not go well in the lesson. That [is] how I assess myself. Self-assessment is useful only when I take it seriously. To conclude, self-assessment is good to some extent and it is not good to some extent. Why I am saying that? Because, as I said earlier, that sometimes I assess myself and file it without taking it seriously, like that it is not useful. Self-assessment is useful, but the most useful one is when you are assessed by someone not yourself.</p>
<p>S7 P</p>	<p>Ja ... yes ... I find it to be more important, sometimes no. I may think that what I am doing is right but it is wrong. It has a good part, the good part of self-assessment is when you assess yourself and find that here I did it wrong; you will be able to search for information to find the correct answers. As student[s], we always do micro-teaching; I will evaluate myself after teaching the lesson. I also assess myself after writing a test and examination. “Sometimes I do self-evaluation, I do that in test and examination[s]. When I get [a] low symbol I will try to work hard and search for more information, even than the lecturer. I assess myself by going through the questions and tick those I got right. Based on the information I have provided I find self-assessment contributing to my active learning. Self-assessment help[s] me to improve on my knowledge of active learning”.</p>

<p>S8 W</p>	<p>All right ... especially during micro-teaching ... just after teaching, I assess my own teaching through evaluating myself. I assess myself at the end of the lesson to look at my strength and weakness. It is, like, always good to assess yourself at the end of the activity and then you will know where to improve. I also assess myself in test[s] and assignment[s]. In test[s], in that one, I assess myself after I have written a test and then check where I did not do well so that next time I improve”. when I get low marks it means to me that I [have to] work hard to get [a] better grade and in [an] assignment. I also assess myself during teaching practice. After teaching a lesson I assess my own teaching and see where I made errors so that next time I [will] improve. In conclusion, self-assessment it does work. It helps me to know my mistakes after I have assessed myself, with that it work[s] for me. It really motivates me to work hard[er] than I normally do, it really makes me better. With self-assessment it is something that makes me to work hard[er] than before. It is really useful for me and contributes to my learning.</p>
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3. Do find peer assessment to contribute to your being actively involved in your learning? In which respect?

<p>S1 L</p>	<p>Peer assessment, in my case, I don't really support it, because we have various people: this one may tell me something good or truth regarding something you want. However, some of the people may not; he may tell you something that is right or mislead you that why peer assessment in my own view is not good. It is rather good to have self-assessment than peer assessment than asking someone, although it might be good, it depends to what type of task are you carrying out. Yes, peer assessment doesn't much affect my learning negatively. In my own way, I looked it [is] not a good thing. Let me just give [an] example: Maybe I prepared myself some questions to assess my ... myself for examination and then I ask one of my peers to come and help me to set these questions. I have to give it to my peer/friend to go through or check thorough the questions the way I have set my questions. In [the] case of assignment[s], I always give it to my colleagues/peers to assist me. In presenting [a] history lesson, my friends always assess my lesson.</p>
<p>S2 U</p>	<p>Yes, I find peer assessment contributing to my active learning. There are two types of assessment, the where peer[s] encourage you to correct your mistakes: they say you did this wrong, you have to improve it, and the other one where maybe the laugh at your mistakes instead of helping you. Peer assessment normally happen[s] when we are in the class. We normally answer questions from lecturers. The peer will just tell you the way you have answered was not correct.</p>

	<p>Or, when you are outside, the peers will tell you that you did not answer the question well but you have tried. The other peer assessment takes place during micro-teaching. Your friends/peers will wait until the end of the lesson; [it] is when they will give their comments.</p> <p>I find peer assessment to be useful, because we are in the world of learning. So [one] cannot know everything. Ja, it [is] good for peers to assess my work, because really, I cannot see all my mistakes. I see peer assessment as supportive and should be assessed in a good manner. I also see peer assessment that is throughout; not only does it take place in the classroom, because students are always together even after classes. For example, during soccer your peers can still assess your skills. Peer assessment is throughout, even if you sit before [the] computer typing something with your friends/peers, those peers of yours can tell you this sentence is not correct and you change it.</p>
<p>S3 Y</p>	<p>Yes, peer assessment also contribute[s] to my learning; like, maybe you did something others will correct you. It is helpful; when you do assessment alone no one will correct you, but when you do it with others they will correct you. I do peer assessment in presentations and group work. In group work, when I do something, other[s] will correct me and [I] learn from others. Like in debate, you might debate in different areas, when you give your opinion, others will oppose you; in that way you are learning.</p>
<p>S4 V</p>	<p>OK, peer assessment, that one ... at first I find [it] like wasting time, but now I find it to be crucial. Like in [the] case of [the] examination, you discuss topics or questions with friends and peers and the peer[s] evaluate you before [the] examination. I find peer assessment really very useful. One sometimes in group can come up with the idea that we make a test for ourselves to prepare for a test or examination; you construct questions on the topic out of predictions, you can give questions to your peers/ friends to assess each other". I do peer assessment in subject[s] like mathematics with friends before writing a test. Other subjects, you just read through for yourself, but mathematics needs cooperative learning. When we are with friends, we discuss and assess ourselves. Peer assessment it happen[s] daily in the class, for example, nowadays in our minor agriculture, you prepare a topic and present it in the class and your colleagues/peers will comment on your presentation. These comments will help you to improve. I find peer assessment very useful. Sometimes the lecturer cannot see all the mistakes, with peers they see everything. The negative comments from peers is [sic] what help me to improve. Ja, I think colleagues/peers can assess me in all the areas, like when we</p>

	are doing micro-teaching in mathematics, natural science and biology.
S5 K	<p>Definitely, it contribute[s] to my learning, simply that when friends assess me they will correct me like this, write this test in this way. Or, this question you were supposed to put it like this way. When peers assess me I will learn from my mistakes, I will not repeat the mistakes that I did again. Yes, peer assessment is very useful. Areas where my peers assess me are the following: In area[s] like writing a test, [an] assignment. After writing a test or assignment my ... when I get my results my friends will go through the paper and say you were supposed to get good marks here, but then you were supposed to answer this question in this way. Ah, micro-teaching. My friends assess me after micro-teaching, they will assess me on the lesson taught. Their comments can be positive and negative comments. I find their comments to be very useful, because they will encourage me to work hard. After getting peer assessment comments, definitely I will improve on the mistakes that I have made.</p>
S6 M	<p>Peer assessment I think is more useful. Let me say, I present a lesson and my friends they will make comments on my lessons. They will make valuable comments on my lessons and criticisms. I think peer assessment is more useful and it helps me to improve on my learning. Peer assessment might be so useful even if I am in the block/hostel, [and] maybe I am behaving in a way that is unacceptable [then] some of the peers will come and give me advice on how I should behave. Like that, peer assessment is useful. In assignment[s], peer[s] always assess my work by editing my work. Peer assessment is taking place in micro-teaching and assignments in my learning.</p>
S7 P	<p>Ja, I find it more important because sometimes you may judge yourself what you are teaching in terms of micro-teaching. You may find that nothing went wrong but when your friends assess you they may find wrong things. Peers observe your lesson and try to find out where you went wrong and right, which you did not see yourself so that I find peer assessment very important in my learning. In which respects? So far, [it] is only [in] micro-teaching where my peers assess me. Ja, sometimes in assignment[s], if [it] is [an] individual assignment, I give it to my friends to see where I went wrong. Teaching practice is also one of the activities where my peers [do] assessment. I find peer assessment to be helpful, but sometimes it is not good. Your friends who hates [sic] you will just give negative comments, like, learners were making noise during the lesson, which might not be true. Peer[s] start with positive and then negative comments. All comments are good. On positive comments, I will try to keep up to the level and on negative</p>

	comments, I will improve.
S8 W	<p>With that one it depends with me. I have my own principle: if I did something wrong it depends how that person tells me my error or mistakes. Sometimes, if I do something I might think I did best, but when other[s] (peer[s]) look at it they may say, “No, you did wrong here.” For me, I think the strategies I have used may make me to think I did the best, but peers will say no to what I did. By that way it contributes to my learning. I always accept ideas from peer[s]/others when I know it contributes to my learning, but sometimes I put [a] question mark to those ideas. In which respect? Like here on campus, only when we do micro-teaching and during teaching practice in schools that[’s] where peers/friends assess me. They also assess me in [the] lower primary course; they always give me more comments on what I should improve on and they give me comments in assignments, but not in test[s]. Ja, peer assessment is contributing to my learning. Working with others is very helpful than when you are doing things alone. Working alone you may think what you are doing is right but with peers you may have a lot of ideas than you have done it. It helps to work in groups because you learn a lot to do.</p>

4. Do you think critical reflection might contribute to students being more actively involved in their learning? In which respect?

S1 L	<p>I find it very important in whatever you do to reflect in a day to prepare for tomorrow. Therefore, it is very crucial to always to reflect on your own work as a student, what have [sic] gone wrong and right in future that will equip you. Very much reflection it is very useful. I have been doing this throughout, more especially, for example when you are talking about academic activities. I have to reflect [on] what was good; maybe I did my assignment and I was told that the assignment was not of [a] good standard. I have to sit and look what went wrong in my assignment, what did I not do? These are the things I have to look at.</p>
S2 U	<p>Uhm ... I think being reflecting is like you happen to do something or micro-teaching or do [an] assignment. They are comments that you get from peers and [you] reflect on those comments and see how you can improve your learning. In the morning or in the night you sit and reflect or find ways on how to go about it. Since we are not that perfect. Ja, I always do reflection, especially when doing micro-teaching, doing assignment[s] and writing examinations. I reflect</p>

	<p>on them before doing another task. I also reflect on the grade given to me so that after reflecting I aim for [a] high grade like A [or] B. I do reflect on the weak points. Reflection contributes to my active learning because you can see the mistakes.</p>
S3 Y	<p>Reflection is important because you reflect on things you didn't do well; maybe you were given a test and you did not do well in the test, then you take the question and check where you went wrong so that next time you might get it right. In which respects? Erm ... like in test[s] and assignment[s], I do reflect to see that I got [the] right answers in the examination and then I do it well. I do reflect to make corrections so that next time I [will] get excellent. Reflection is helping me. Normally I only reflect when I get back my test and assignment back from the lecturer.</p>
S4 V	<p>OK, reflecting ... myself ... Let me take an example with me teaching a certain topic – it really helps. When I started, more especially in my first year, I find [sic] it like a waste of time, but after doing it several times I see it [is] very important; it is very much useful because it gives opportunity to assess yourself. After reflecting, you will see that this was not supposed to be done in this way. OK, most of the time I reflect [on] myself after teaching a topic. Although I might not write it, mentally I always reflect what happen[ed] in my presentation. I reflect on what I was supposed to do in those aspects. I reflect after writing a test or examination or even doing academic work. I reflect why I am getting these marks. There are many ways of reflecting, even in assignments, when it is returned back I reflect when I get 60%. It is even worse when I get 50%, [then] I ask myself why I am getting this. Reflection encourages me to go forward looking for a solution. After reflecting, I recognise the problem that went wrong and work positively to improve my learning.</p>
S5 K	<p>Yes, reflection contributes to my learning in the way that when I learn I reflect on what I learnt. I always reflect on my teaching. Definitely, I find reflection helpful; after reflecting I try to see where I went wrong and try to correct it next time when I do it again.</p>
S6 M	<p>Yes, I find reflection useful when it comes to my learning. In the areas such as attendance of class, maybe the whole day I only attended one class. When I get to my bed I reflect critically on that day; it helps me to come cross where I was right and wrong. It gives me encourage that I am [a] grown-up person. I don't</p>

	<p>need someone to force me to attend my classes. It help[s] me to have self-esteem. Usually after reflecting, it helps me to improve on my mistakes. I also reflect on how I do my work, let me say when I am writing a report I don't really look for more information; maybe I read three books for my assignments and when I reflect I see that is not enough. I should look for more books to read rather depending on two or three books. I also reflect on taking my studies serious[ly] and I also like to do things at the last minutes. As a result, I find myself being more stressful in that way. I just tell myself that this is not the right way of doing things. I should improve by doing things in advance.</p>
S7 P	<p>Uhm ... repeat it. Yes, reflection contribute[s] to my active learning. When I prepare myself, I will be able to know that this thing is not right and then I will try to improve it by knowing more. Areas where I reflect on are in teaching practice.</p>
S8 W	<p>Ja, I will say, not really. I am a person who after the lesson I leave my books there on the table and then come after. I do not normally go through my work. I don't normally reflect on that. I went on whatever comes next that what I do. I do not reflect on what happen[ed] during the class. With me, reflection improve[s] my learning only when I know that this thing is needed urgently. I reflect only when get low marks, but when I got low marks I reflect to make sure that next time I don't get low marks.</p>

5. What kinds of feedback have you found to be useful in helping you to learn actively? How did this happen?

S1 L	<p>Mostly, I like to explain by giving examples. Most of the feedback, especially when I do my assignment, giving it to the lecturer for marking and later when they return it. I remember when I got one of my assignment[s], which I thought was the best, but it was worse talking about it. I never gave this assignment to anyone. Some of the feedback I get from lecturers help me to improve my academic work. I receive back my assignment in the classroom and I have the opportunity to talk to the lecturer about the assignment, to find out what went wrong in the assignment. The lecturer has to provide me with things that went wrong in the assignment. I get direct feedback from my lecturer in the classroom, but I find it difficult. Maybe you are shy and this makes students dormant. I also get written comments and verbal comments (feedback) from my lecturers. I prefer orally [sic] comment [rather] than written feedback, with written comments (feedback), you don't know how he was marking it. Orally</p>
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	<p>[sic] feedback gives you the opportunity to ask the lecturer in the class and you are told what to [do] in order to improve next time. Written comment (feedback) ... Students sometimes say, "I will do it when I prepare for [the] examination." Orally [sic] comment[s] (feedback) help students to reflect when the person when he/she was busy talking to you. When you [are] alone you try to reflect on orally [sic] feedback so that you can improve.</p>
S2 U	<p>Erm ... the feedback ... [What] I find useful are [sic] the written feedback, like you are doing [an] assignment, you have written [an] examination, you will receive feedback for both. You have to look at those comments or feedback given to you. If a person gives you an A and there are no comments to support the A grade, you will see that it might be [that] it was a favour or you got a C grade but the comments are not up to standard for you to get a C grade. Ah, written comments normally happen when you do assignments, micro-teaching, test[s] and examination[s]. They will always comment (feedback) at the end on how to improve whenever you write something. Other comments (feedback) comes [sic] from peers during group activities. All comments are useful; with me, I believe I am not perfect, so always accept the comments for improvement.</p> <p>After getting the comment, I will not look at the grade, but I will look at the comments then [the] grade.</p>
S3 Y	<p>Lecturer may comment on what you have done wrong or right. This feedback helps you to improve next time. Lecturers' comments on assignment[s] help you to make corrections on what went wrong. I do get comments on assignment[s] when the lecturer return[s] my assignment and write comments on the last page of the assignment. I find feedback useful to my learning. Maybe you didn't elaborate more on the question, the comments will help you to put [in] more effort next time.</p>
S4 V	<p>One might say, personally, starting from school, I was one of the learner[s] who used to get high marks. [If] I get low marks, it really makes me to work hard. Feedback gives a room of working actively together with other[s], maybe I am lagging behind. Some feedback are [sic] positive and some are [sic] negative. The positive feedback it makes me to stand where I am, but mainly the negative one makes me crazy, it gives me [a] hard time. I have to work hard towards [the] positive one. [If] I receive written feedback, this kind of feedback is very useful. If it is in the form of orally [sic], I will find it difficult, like in mathematics. Different lecturers give feedback in different ways: some may call your marks (orally [sic] feedback) you have got and some on a paper (written</p>

	<p>feedback). The teacher/lecturer will give feedback in a written form; this kind of feedback is very useful.</p>
S1 K	<p>Yes, we are given feedback. When we write [a] test and you try to compare where did you go wrong and then I make sure that next time when I am asked the same question I should answer it in this way. The feedback I receive in a[n] orally [sic] form and I find it useful because they will help me to improve. Orally [sic] feedback are [sic] useful because you sit with the lecturer and if you have questions you can ask the lecturer, but written feedback you just go and read it alone, even if you have [a] question you will not have time to ask the lecturer, but orally [sic] feedback the lecturer will answer your questions and you can ask questions again. Orally [sic] feedback happens in the way that you sit with the lecturer in the office and [he/she] give[s] feedback.</p>
S6 M	<p>OK, the feedback which I found to be useful ... I think after reflecting on my behaviour towards lecturers and fellow students maybe in one way or another I found it hates the person I try to change my behaviour. OK, feedback I get from my lecturers is always based on my work. For example, teaching practice files, lecturers always give comments, like the file is not well arranged. I recall last year when I was teaching science in the class I did not use teaching aids, the lecturer commented that I should always use teaching aids like science is a subject which requires teaching aids like concrete materials. I even used my money to buy fresh fish to be used as a teaching aid. I find feedback useful in my learning. I get feedback from lecturers and students in the class on the work I have done. All feedback is useful in my learning. I get written comments (feedback) on the assignment and some they give verbal and written comments together. During SBS/teaching practice I get written comments and explanation and I also get written comments for tests.</p>
S7 P	<p>The one I find useful is like, let me say the one which is written on the paper (written feedback) from the lecturers or peers. I find it useful because I will read it and try to improve, while oral feedback sometimes is not good because the way other people present it might offend you. Written feedback you read it alone without someone disturbing you; sometimes [when] you get negative comments in written feedback you are not going to quarrel with someone, like in oral feedback because you may tell the person that here you lied. It is important to get written feedback if you have a question you come back to see the person in another form which is good. I prefer to have both negative and positive feedback because all will help me to improve. In other words, I am saying negative comments are good, because it helps me to improve. Let me say</p>

	<p>observations of teaching practice if you have to receive this feedback you have to come to see the person who observed you to get feedback. The one who observed your lesson is the one who should give you feedback. I prefer written feedback, but sometimes when I have a question I might come back to see the person who observed me. I find written feedback useful to contribute to my active learning.</p>
<p>S8 W</p>	<p>The only feedback that is helpful, let me say, comments on things that need improvement. The only thing that motivate[s] me is that, let me say, I got good marks, I will make sure I keep it to that level. I do not go down or it might go high not down. What contribute[s] to my learning is [sic] negative comments, because I will try to work on them and improve next time so that my learning can improve. The positive comments I work on them so that next time things should be good. How did this happen? I get feedback on test[s], assignment[s] from lecturers. I get feedback by receiving my results. In [a] test I get the marks on the test answer sheet after the lecturer has marked [it]. In [an] assignment I get written comments. That [is] how I get feedback on my work and so on. Well, I might say both written and oral comments to me they are all useful. Let me start with the oral comment: it is good because you have the opportunity to ask the lecturer. In written feedback, sometimes you may not understand the feedback (comments). I might still repeat the same mistakes and then the lecturer may tell you that I told you the mistake already; sometimes I have never understood the comments. Both written and oral comment[s] (feedback) they are good and sometimes they are bad. But for me the most useful ones are the oral comments (feedback) because that is the only way on how you can improve.</p>

6. Is there anything you think you need to do to involve you more actively in your learning so that your learning results may improve?

<p>S1 L</p>	<p>Erm ... what I think [the] most best thing which I do in my case so that I can improve, I think, my lecturers to involve me in the class discussion. To say the truth, when you are appointed in discussion to say something in the class of 50 students, you really feel strength that you have tried. To do the best thing is involving me in the lesson, this will also help me to improve, that [is] why [the] learner-centred approach is important. Involving me will be one of the best things to do. I also think providing us with some of the materials that are useful, so that after the class I will go and read materials that can improve my learning. Sources of information are many, such as Internet; nowadays we are talking about technology. You find useful information in the library, reading books,</p>
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	<p>magazines and newspapers, which are useful that contribute to academic work. Thank you very much.</p>
S2 U	<p>With me, if I listen [the] radio while studying I concentrate much. Reading without listening to radio, my mind is dead. Reading and listening at the same time will make me concentrate by listening to music. Even those... some people say it makes [a] noise or destruct attention with me, I listen and read at the same time- that [is] how I learn is by read[ing] hard/loud. In that case [it is] as if someone is telling me something when I read as if I am reading to someone it really helps me because it go[es] straight to my hearty. The other thing is reading[a]load as if I am talking to people that makes me to remember what I am reading. That is how I read. The other ways of improving my learning results is by asking peers about the topic and [to] go to the library to look for books to read concerning the topic I am doing. The last one is search information on [the] Internet. I found reading books in the library and search[ing] on [the] Internet very much useful to improve my learning results.</p>
S3 Y	<p>Erm ... yes as I said before, pair work and group work where they give you something to present in that way you are learning. In English, maybe you didn't pronounce the word correctly your friends will correct you, by sharing ideas with friends can improve your learning, by present[ing] something where others will correct you. Other sources of information are available ... erm ... like in assignment[s] I have to use different books or references which will give me different ideas about the topic. Books in the library are helpful; if you consult different books then you have [an] opportunity to compare ideas. By reading books my results can improve. Like us student we get information in the library, but you can also get information on [the] Internet. Information on [the] Internet is also helpful just the same like in books.</p>
S4 V	<p>Ja, I think one of the things I have to do is to find some peers who are also much in my area who are better and interested in learning. When you find peers who are active, you benefit from them. Of course reading different books can improve my learning results, it helps.</p>
S5 K	<p>Yes, there are a lot of things I have to do, like putting more effort in my work, putting more effort on my work will help me to learn actively. I can put more effort by looking at my timetable, like I am studying English, I have to put more time for study. I must also read materials related to my work. You can buy in</p>

	<p>the shop and you can [get] the material in the library. Other information is available on Internet. On [the] Internet I search [for] information, I can also improve my results by asking lectures on certain topics, for example I have a problem with a topic in English, and I can go to that English lecturer and say, "Could you please help me on this topic."</p>
<p>S6 M</p>	<p>I can improve my results by taking my studies seriously, for example, if am given an assignment I should do it in advance and I should strive for good results. I should look for information rather giving shallow information. I can improve my results through reading books in the library. Sometimes I get information on [the] Internet. I should interact with fellow students or peers, classmate[s] during teaching practice. At least if I interact with them I will learn things here and there. I should try to go through the comments I get from peers and lecturers in order to improve my learning.</p>
<p>S7 P</p>	<p>Ja, the most important thing [is that] you must work with friends. When you have friends you must not think that I know better than others. Sometimes even those people who write books, theories they also get help from other people. If you have a problem don't sit on it, but talk to your friends/peers and lecturers to help you rather just sitting in a room and you remain with a problem. The other way is to work to improve my results. I get information through searching books in the library and Internet to search for information. You ask different people. What I mean by different people, for example those who are teaching mathematics who are good at mathematics and sometimes to [a] school which offers the subject. Definitely consulting all the relevant sources will help me to improve my learning.</p>
<p>S8 W</p>	<p>Erm... I think ... what I have to do is that results I will get is [sic] not so satisfactory with me I have to go deep to understand the topic very well. I to understand the topic very well may be asking lecturers and other fellow students. When it comes to learning there are also other people like parents at home who can help in subjects like history and I also read more to understand the topic. If I did not understand something in the lesson, at the end I will ask questions to the lecturer to explain more. I get information from lecturers, students and parents at home. Other sources where I get information to improve my learning results are [the] library, reading different books in the library, even going to the internet to search information; there are[sic] always information on internet available. Consulting many sources will help to understand the topic better</p>

