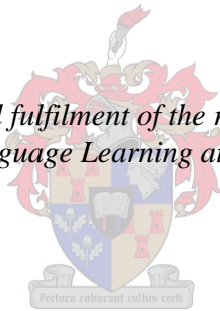


# **An evaluation of the feasibility of using Moodle to develop an online learning program for the Grade 12 Literature component of the First Additional Language syllabus in South Africa**

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*Thesis presented in partial fulfilment of the requirements for the degree  
MPhil in Hypermedia for Language Learning at the University of Stellenbosch*



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## **Declaration**

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## **Abstract**

The decline in the Grade 12 pass rate in South Africa has been a cause for widespread concern. While this decline is the result of the interplay of many factors, one of them is undoubtedly that teachers and pupils often find themselves in situations where they do not have access to adequate resources. This study is a formative evaluation of material that was created with the Moodle learning management system, in order to provide teachers and learners with resources that can be made readily available online. These resources are accessible from computers and cellular phones with internet connectivity. The resources not only provide content, but also learning activities that can be used either by individual learners, or with a teacher in a classroom environment. In the absence of a teacher, the activities could also provide meaningful feedback to aid learners in the learning process. Two courses were created in the Moodle Learning Management System that cover work prescribed for Grade 12, English First Additional Language for the period 2009 to 2010; namely the prescribed short stories and the play, *Nothing But The Truth* by John Kani. A number of activities are evaluated according to usage and feedback that they provide. The outcome of the study is that it is possible to provide learners with online learning materials which will enable them to prepare thoroughly for the final examinations.

## **Abstrak**

Die daling in die Graad 12 slaagsyfer veroorsaak kommer in baie geleedere. Alhoewel hierdie daling die gevolg kan wees van baie faktore, is een van die redes dat onderwysers en leerlinge hulle dikwels in 'n situasie bevind waar hulle nie die nodige toegang tot die nodige leermateriaal het nie. Hierdie studie doen 'n formatiewe evaluering van die leerprogram wat ontwerp is met behulp van Moodle, 'n leerbeheerstelsel, om onderwysers en leerders van die nodige leermateriaal te voorsien. Die leermateriaal is toeganklik vanaf beide 'n rekenaar en 'n selfoon met internet toegang. Hierdie leermateriaal verskaf nie net statiese inligting nie, maar bevat leeraktiwiteite wat deur leerders op hulle eie gebruik kan word, of saam met 'n onderwyser in 'n klaskamer. In die afwesigheid van 'n onderwyser kan die leermateriaal ook die nodige terugvoering verskaf, sodat dit leerders kan help in die leerproses. Twee kursusse is ontwerp as deel van 'n Moodle stelsel wat van die voorgeskrewe werk dek vir Graad 12, Engels Eerste Addisionele Taal vir die tydperk 2009 tot 2010; naamlik die voorgeskrewe kortverhale en die verhoogstuk, *Nothing But The Truth*, deur John Kani. 'n Aantal aktiwiteite word evalueer ten opsigte van die gebruik en ook die terugvoering wat dit voorsien. Die resultate van die studie is dat dit wel moontlik is om voldoende studie materiaal aan Graad 12's beskikbaar te stel wat hulle kan gebruik om voor te berei vir die eindeksamen.

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*As an old proverb goes, learning without exchanging views with others makes one poorly informed and ignorant. (Liu, et al., 2010:268)*

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# Chapter 1: Introduction

## 1.1 Background

In her statement on the National Senior Certificate Grade 12 Examination results for 2009, Angie Motshekga, Minister of Basic Education, said that "We must acknowledge that there is poor teaching in many of our schools" (Motshekga, 2010).

The Democratic Alliance blamed the South African Democratic Teachers Union for the decline in Matric results in Gauteng. Khume Ramulifho, the DA's education spokesperson said that "The DA believes that the impact of the SA Democratic Teachers' Union (Sadtu) related disruptions on education in 2009 led to this decline". He further stated that "some educators did not complete the whole curriculum, and absences from their classrooms exacerbated the problem" (Wales, 2010).

Naptosa president Ezra Ramasehla said in a statement, referring to difficulties with Maths, Science and English that "Naptosa is of the view that a strategy should be put in place to ensure that suitably qualified teachers are appointed in these posts and that adequate support is given to develop teachers of these subjects" (Wales, 2010).

These are but a few of the comments made about the Grade 12 results of 2009. There is widespread concern about the decline in the pass rate and although there may be many reasons for this decline, the fact is that many pupils attend classes with teachers who are either not appropriately trained or not motivated enough to teach them effectively.

What does a learner in Grade 12 do if there is an unmotivated teacher standing in front of the class? Where can he/she turn to for guidance or for information on the work that needs to be learned to pass the final examination?

Often, these pupils come from poor families who cannot afford to pay for extra classes or extra resources. Study material that is free and easily accessible should be made available to all learners. This material should provide enough information to cover the Grade 12 Assessment Standards, but should also provide enough learning activities to make it possible for the learner to learn the prescribed content. These activities, moreover, should provide meaningful feedback for appropriate learning to take place.

## **Research Question:**

What should online learning material for Grade 12 learners look like so that it will provide enough scope for effective learning to take place?

Questions that logically relate to the primary research question are whether this material can provide adequate feedback without the aid of a teacher to direct the learning process and in addition what effective feedback is and how to provide for it. One also has to consider in what way these learning activities should be designed so that they will lead to a meaningful learning process.

In an attempt to answer these questions, the Learning Management Systems used in education were reviewed, the tools of the Learning Management Systems were evaluated to determine to what extent they provide the required feedback and an online learning program consisting of two courses was developed. The design of online learning programs was researched to determine the optimal design and structure of this learning program.

## **1.2 Aim**

In a study that was conducted by Liu et al. an online learning system was implemented that made self-testing for students learning English as a second language in China possible. It also incorporated Web 2.0 activities such as online discussions. This independent system could be accessed by any person learning English in China and was put into place to help anyone who had to prepare for any examination in China that is conducted in English, e.g. entrance examinations, professional examinations and qualification examinations. (Liu, et al., 2010:267)

The framework of the system was based on social learning theories and social constructivism. It incorporated a number of Web 2.0 activities such as the use of forums. (Liu, et al., 2010:265) Their results showed that the students agreed that "interaction, collaboration and communication can support their online self-testing" (Liu, et al., 2010:273).

The researchers did not make use of existing software, but had a webmaster who designed the system for them. To provide any information online, one needs to be able to create a website. Even though a number of website software packages exist, it is still necessary to understand html (Hypertext Mark-up Language) with which websites are developed. This also only allows for the creation of static content that can only be read and does not allow for meaningful interaction. In order to create content with which a user can interact, one need to know programming languages like Java or PHP that are used to create dynamic content. As only a small percentage of educators know how to do any of this, the only other option is to find programs that can be used to create dynamic content without having to resort to the programming of the content. An example of such a program is a Learning Management System (LMS).

A Learning Management System provides ready-made tools that can be used to create interactive learning. Learning Management Systems have been used for some time now in higher education, but it is a relatively new concept for secondary schools. Of the available Learning Management Systems used in education, the most effective are Blackboard, Sakai and Moodle. The reasons for my choice of Moodle are fully discussed in Chapter 3 of this study.

The methodology used for this study is that of formative evaluation. The aim of this study is to create learning material for Grade 12 learners with which they can study. This material should not only give the kind of information that replicates a textbook or study notes, but should be created in such a way that it can be used by a learner without the aid of a teacher. The learning material should also consist of useful content and learning activities and should provide meaningful feedback. The learning material is, therefore, evaluated to determine to what extent it provides meaningful feedback. The concept of meaningful feedback is discussed in more detail in Chapter 2.

While it is possible to use an LMS to create resources for any subject, this study concentrates on language learning; and in particular the learning of literature. The learning materials created are on the prescribed play *Nothing But The Truth* by John Kani and the prescribed Short Stories (2009 – 2011) for Grade 12, English First Additional Language. From here on, I will refer to these learning materials as the learning program.

The learning program is available on the web at <http://www.sun.ac.za/readforfun/club>. Anyone can access this program on the web by creating a profile and logging into the site.

It was also deemed necessary to look at cellular phones as a possible means with which learners could gain access to this learning program. Statistics indicate that in 2008, 92 out of every 100 people had access to cellular phones in South Africa as opposed to only seven out of every 100 people who had fixed internet access (*Information and Communication Technologies*, 2010). From these numbers one can deduce that a large number of learners do not have access to the Internet from a computer and statistically that more learners have access to the web from a cellular phone than from a computer. To this end, this study also looks at the type of activities that can be completed from a cellular phone. The study does not compare the activities from a computer with the activities that are possible from a cellular phone, but presents the types of activities that are available on both these platforms.

The framework of this study is as follows: because the learning will take place in a social context, the preference is for Social Constructivism as the underlying learning theory of the learning program. A review on three available Learning Management Systems was done to determine which one offers the best solution with reference to this theory of learning. Then a thorough review on

Social Constructivism as learning theory and on the concept of feedback was conducted in order to evaluate the tools provided by the LMS in terms of the feedback each tool provides. Randomly creating a number of learning activities will not provide for a meaningful learning experience, so it was also necessary to research the design of online learning programs to determine the layout and design of the learning program that was created with the selected LMS.

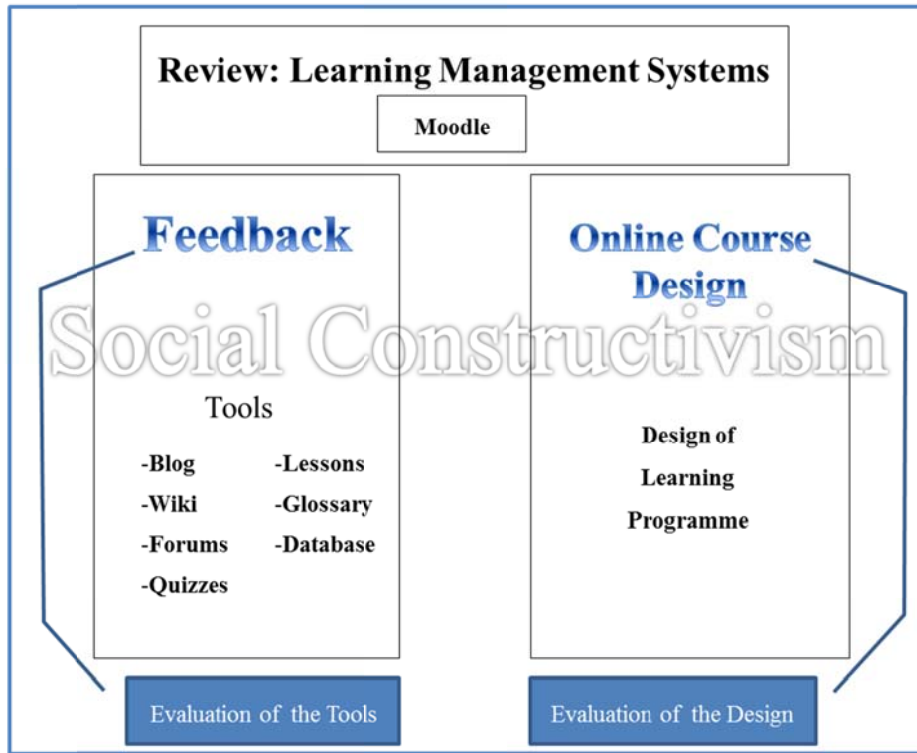


Figure 1.1 Framework of this study

## **Chapter 2: The Theory behind the Practice**

Studies that were undertaken by Pittard to measure the impact of Information Communication Technologies (ICTs) on pupil achievement, motivation and learning in schools in England revealed that "school standards are positively associated with the quality of school ICT resources and quality of their use in teaching and learning, regardless of socio-economic characteristics" (Pittard et al., 2003:3 as cited in Evans, 2009:11). The study further showed that of all the subjects the learning of a modern foreign language benefited the most from the use of ICTs. (Evans, 2009:11).

In the South African White Paper on e-Education (2004:16) the following statement is made:

The Department of Education believes that developments in ICTs create access to learning opportunities, redress inequalities, improve the quality of learning and teaching, and deliver lifelong learning. ICTs can accommodate differences in learning styles and remove barriers to learning by providing expanded opportunities and individualised learning experiences.

The study done by Pittard indicates that the use of ICTs can improve the quality of learning. As seen from the above statement, this is also the belief of the South African National Department of Education. The question to be considered is in what way an online course should be structured in order to improve quality of learning and what factors ought to influence the design of the course.

The design of this learning program is underpinned by social constructivism as learning theory. In the next section, the reasons are explained why the learning program that was developed as part of this study is based on this theory.

Online course design is also discussed in this chapter, with the emphasis on the use of formative assessment and feedback as part of the learning process.

## 2.1 Learning Theories

The behaviorist model of learning comports well with a stimulus-response approach to assessment, and both of these ally well with “teaching to the test” designed to “deliver” and reinforce a curriculum packed with certain kinds of content. This scenario illustrates the close links between curriculum, pedagogy, and assessment and their mutual dependence on theories of learning. In a behaviorist approach to learning, there is an emphasis on recall, on lower-order thinking skills, whilst commitment to development of understanding is tempered by an assumption that this will develop later on the basis of remembered information. Such assumptions have strongly influenced educational practice, provoking the comment that current assessments arise from 20th century statistics applied to 19th century psychology. (Black & Wiliam, 2007:43)

This behaviourist model of learning still features very strongly in secondary schools in South Africa. Even though the introduction of Outcomes-Based Education directed a different approach in education, it has been found that learners are still drilled to learn only what is necessary so that they can pass the tests or examinations. This is especially the case for Grade 12 learners who have to prepare for the final examination. In the design of the learning program, this had to be factored into the development of the courses.

Even though this is the situation, the nature of online learning and especially the nature of Learning Management Systems, lean towards a social constructivist approach. The decision was to include activities with which learners are familiar, but to base the overall nature of the learning program on social constructivism, the reason for which I will discuss in more detail below.

It is possible to create online activities based on any of the mainstream learning theories. The following table outlines four learning theories and describes how learning content can be delivered in an online environment. A brief discussion on each of these learning theories follows the table.



	<b>Instructional Information Processing</b>	<b>Instructional Behaviourism</b>	<b>Personal Constructivism</b>	<b>Social Constructivism</b>
Philosophy	Knowledge as reproduced cognition	Knowledge as modified behaviour	Knowledge as personally constructed meaning	Knowledge as socially constructed meaning
How to Learn?	Learning is processing information (computer metaphor)	Learning is a response to stimulus	Learning is experiencing and reflecting autonomously	Learning is experiencing and reflecting relative to a social context
Electronic Support	E-Teaching: Classroom-based learning environments (virtual classrooms, videoconferencing) Technologies used as tools in support of classroom activities	E-Teaching: Web-assisted instruction (computer-aided instruction environments)	E-Learning: Set of manageable content-rich tools (e.g. simulations, microworlds)	E-Learning: Set of manageable, content-rich tools and knowledge-sharing and collaboration tools (e.g. wiki, blogs, forums)

*Table 1 Instructional approaches and their consequences for e-learning (Walker & Baets, 2008:245)*

### **2.1.1 Instructional Information Processing**

The first theory of learning as outlined in the above table defines gaining of knowledge as the duplication of existent thought or reasoning. In other words, information is given which the learner merely takes in and memorizes. In an e-learning environment, this can be done by means of video conferencing. The teacher delivers a lecture and the learner digests the information. The focus is on the teaching and not on the learning and the teacher controls the learning process. The learner does not actively take part in the learning process.

### **2.1.2 Instructional Behaviourism**

The second learning theory refers to the gaining of knowledge as modified behaviour. The focus here is still on teaching, and the learner responds to instructions given by a computer, which takes over the role of the teacher. An example of this is the completion of an online quiz.

### **2.1.3 Personal Constructivism**

In this case, knowledge is personally constructed by the learner. Now the learner is more in control of the learning process. The learner however acts autonomously and not as part of a group. The focus is on the learner and the learner directs the learning process. A learner can, for example, control a simulation. The learner controls what is going to happen next, and therefore directs the learning process. Another example of this kind of learning is that done through computer games.

Any of these learning theories can be applied in a Learning Management System context, however, the social constructivist learning theory forms the basis of the learning program and will therefore be discussed in more detail.

## **2.2 The Social Constructivist Learning Theory**

This learning theory defines the acquisition of knowledge as a social process. Learning is done in a social context with other learners. The focus is on learning and the learner manages the learning process. Collaboration tools like wikis, blogs and forums become very important in this context.

A study with a Grade 6 class of 45 isiXhosa-speaking learners aged from 11 to 12 from a former black township in the Western Cape of South Africa was conducted by Stears in 2009.

The purpose of the study was to probe learners' responses to a curriculum that was based on the assumption that learning is socially constructed as well as the inclusion of elements of a critical pedagogy. (Stears, 2009:401)

Stears (2009:397) managed to enhance the science curriculum by adding social constructivist activities and to enrich the learning experience of her learners, by meeting their personal and social needs. She also found that a number of issues should be taken into consideration when social constructivism is used as a framework. It should take into account that learners construct knowledge in different ways. Learning occurs best when the social environment is jointly constructed by all members involved in the learning process. In that social setting, effective learning will be influenced, especially by more 'capable' others, in the learners' immediate environment. (Stears, 2009:399) The manner in which learners take part will differ as each learner comes from a different background and has diverse abilities. Powell & Cody (2009:245) also stress the importance of teachers recognizing the diversity of the class and that these differences should be embraced.

Meacham (2001:190) supports the implications of Vygotsky's writings that "a culturally diverse learning environment, in contrast to the tradition of deficit, may embody important advantages in

higher-order conceptual development.” He further mentions that Vygotsky’s theories are important for cultural difference research, because they confirm several assumptions critical to the cultural setting.

Physical and personal, as well as social and cultural factors influence the way in which a learner constructs reality and how he/she makes meaning of certain concepts. To make the learning process meaningful, the social and cultural environments of learners should be taken into account. Vygotsky’s view was that development flowed from the social to the individual. He further regarded collective learning as primary, and individual learning as secondary. (Vygotsky, 1962:133)

Vygotsky (1962:103) uses the analogy of a second language learner to describe the quality of conceptual learning that takes place at school. As in the learning of a second language, the learner does not grasp schooled concepts directly but indirectly through the more familiar conceptual frameworks taught in the home. Without meaningful connections to the spontaneous conceptual domain of the home, a mismatch exists and schooled learning becomes more difficult. (Meacham, 2001:192)

A learning environment is a place where people can draw upon resources to make sense out of things and construct meaningful solutions to problems. Adding 'constructivist' to the front end of the term is a way of emphasizing the importance of meaningful, authentic activities that help the learner to construct understanding and develop skills relevant to solving problems. (Wilson, 1996:3)

The learners using the learning program will come from various backgrounds, each one bringing their own framework to the online environment. Each learner should be able to construct the learning process in a way that will suit him or her best. He/she should start working with material that links with his/her familiar framework. Learning material should therefore be presented in such a way that a learner is able choose where to start. For example, if a learner already has a basic understanding of the work, he/she can start with more advanced activities and skip the beginner exercises. Another learner, who does not have this basic knowledge, can start at the beginning. In this way, the learner can manage the learning process.

Vygotsky, the father of social constructivism, believed that social interaction was a very important part of learning. Social constructivism is based on social interactions of students combined with their own critical thinking (Vygotsky, 1962:93). Powell & Cody also found that "social constructivism is a highly effective method of teaching that all students can benefit from, since collaboration and social interaction are incorporated." (Powell & Cody, 2009:243)

This concept effective collaborative learning is also explained by Black & Wiliam when they say that:

To varying degrees, learning happens through, and in association with, social interactions. Thus the learning of students develops in several communities — notably the family, the peer group, and the classroom. The idea that the nature of the classroom as a learning community is an important determinant of school learning is now well established. For example, development of peer learning and peer assessment has been shown to lead to significant improvements in learning. (Black & Wiliam, 2007:45)

As seen from the above references, most social constructivist models find collaboration among learners very important. The learning program created for the purpose of this study provides learners with the opportunity to engage with learners from other schools, thereby making it possible for learners from various schools to collaborate. The idea of the community in the classroom as expounded by Black & Wiliam will be extended to the online environment.

Vygotsky also believed that support is very important in the learning process and that learners learn more effectively when they have others to support them. "According to Vygotsky cooperative learning is an integral part of creating a deeper understanding. Cooperative learning is a part of creating a social constructivist classroom." (Powell & Cody, 2009:244)

Powell & Cody suggest that teachers create opportunities for students to collaborate with each other to construct cognitive or individual internalization of knowledge. This reinforces Vygotsky's view that development flows from the social to the individual.

Teachers should promote dialogue of the material so that students can critically think about what they are learning. If they think critically, they will walk away with personal meaning that was constructed on their own. The idea of discussion is echoed throughout social constructivism and is enriched through diversity. (Powell & Cody, 2009:245)

Powell & Cody further suggest that a way to help students discover knowledge on their own can be accomplished by question and answer periods after every important topic. Teachers can also assess students formally through testing and informally by generating discussions. (Powell & Cody, 2009:247)

It is however very important that these question and answer periods are done correctly. Black & Wiliam (1998:86) found that these sessions are often unproductive. Teachers tend to be too hasty and do not wait long enough for pupils to think out answers. "When a teacher answers his or her own question after only two or three seconds and when a minute of silence is not tolerable, there is no possibility that a pupil can think out what to say." (Black & Wiliam, 1998:86)

Powell & Cody further mention that the components of a constructivist environment should include real world or meaningful practices. They state that "students learn through examples that they can relate to on an emotional, or on a cognitive basis. Students can experience their world using meaningful practices that connect emotional or affective, as well as thinking or cognitive parts of self" (Powell & Cody, 2009:248).

Honebein gives seven goals for the design of Constructivist Learning Environments in *Constructivist Learning Environments – Case Studies in Instructional Design* as cited in Wilson (1996:11). The goals that pertain to the creation of the courses for this study are as follows:

## **Goal 2**

Provide experience in and appreciation for multiple perspectives. Students must engage in activities that enable them to evaluate alternative solutions to problems as a means of testing and enriching their understanding. (Wilson, 1996:11)

Engaging in online discussions gives learners the opportunity to consider answers to questions other than their own. Ideally, a teacher should also be part of the discussion to direct and focus the discussion. If the discussion tool of an LMS is used, the discussions remain there and are not deleted which enables any learner to go back at a later stage to previous discussions and to read the different responses.

## **Goal 4**

Encourage ownership and voice in the learning process. This illustrates the student-centeredness of constructivist learning. Students play a strong role in identifying their issues and directions, as well as their goals and objectives. (Wilson, 1996:11)

The fact that the learners have the opportunity to use alternative resources, theoretically gives them ownership of their own learning. They will be able to identify what they want to learn and how they want to learn it.

The online resource is created in such a way that learners can decide for themselves what and how much they want to do. They can follow their own path, since it is not prescribed by a teacher.

The forum and blog tool also allow learners to voice their own opinions and develop their own line of argument about a literary text.

## Goal 5

Embed learning in social experience. Intellectual development is significantly influenced through social interactions. Thus, learning should reflect collaboration between both teachers and students, and students and students. (Wilson, 1996:11)

This goal emphasises the importance of social interaction, which is part of the constructivist learning process. The use of discussion tools, e.g. chat rooms, forums and blogs are ideal to contribute to the social environment in which this kind of learning can take place. This also allows learners, who are shy or slow to speak in class to ask questions which they would normally avoid.

The learners who use the system will come from various backgrounds. This makes it difficult to create a familiar framework for all learners. It makes it imperative to add a variety of activities to which learners can relate. Stears (2009:397) managed to enhance the science curriculum of South African learners in a South African context, by adding social constructivist principles. I believe that this learning program will also be enhanced by adding the same principles. Many of the learners come from learning environments that are strongly competitive and do not encourage collaborative learning and it may take a while for learners to recognize the value of a collaborative environment. Meacham (2001:190) believes that a culturally diverse learning environment can have important advantages for theoretical development. I also believe that the learning program will benefit culturally diverse learners of South Africa.

## 2.3 E-learning: Online course design

This study aims to create an online learning program that could be used by Grade 12 learners to access learning activities, which could supplement either what is learnt in a traditional classroom or in the absence of proper learning in traditional classroom can be used by learners without the aid of a teacher. Merely dumping content online will not provide meaningful learning opportunities. The learning program should provide activities in which learners can actively participate.

Baddagh & Bannan-Ritland (2005:194) give several examples of constructivist based pedagogical models, of which the concept of Integrational Learning environments is one. These environments are created by a combination of web-authoring tools and learning management systems.

These integrative tools or systems allow elements of the instructional attributes of exploratory and dialogic learning environments to be merged into Web-based courseware, online learning environments, and e-learning knowledge portals that can be created without extensive programming knowledge. Web-based authoring tools and

course management systems present users with the opportunity to incorporate various instructional strategies, by using the available software features, into a holistic course design. (Baddagh & Bannan-Ritland, 2005:194)

Examples of web-authoring tools are Dreamweaver, Adobe Captivate and Hot Potatoes. These products allow one to create hypermedia and multimedia instructional content. An LMS also has a number of the features that these web-authoring tools have available. The option is therefore to create content by means of any of these tools or to use the ready-made tools as provided by the LMS.

Baddagh & Bannan-Ritland (2005:206) propose the following 13 instructional strategies, which embody the instructional characteristics and implications of constructivist-based pedagogical models. They are:

### **2.3.1 To promote authentic learning activities:**

Authentic learning activities involve the engaging of learners in real world activities and tasks. Learners should get the chance to make decisions in real-life situations. Any real world activity can be created and learners can be asked to blog about it, or take part in a discussion.

### **2.3.2 To promote problem solving**

"Problem-solving activities place more emphasis on learning how to learn than on learning specific content." (Baddagh & Bannan-Ritland, 2005:210) Learning technologies that support problem-solving activities include asynchronous and synchronous communication technologies, groupware and document-sharing technologies, hypertext and hypermedia, search engines, and online database and knowledge repositories. (Baddagh & Bannan-Ritland, 2005:210)

### **2.3.3 To promote collaboration and social negotiation**

A collaborative strategy "encourages interaction between or among two or more learners to maximize their own and one another's learning" (Baddagh & Bannan-Ritland, 2005:219). Examples include group discussions, the sharing of documents by group members, group members working simultaneously on one document, creating a shared database or making use of synchronous communication techniques. (Baddagh & Bannan-Ritland, 2005:219)

### **2.3.4 To promote exploration**

Learners are encouraged to explore and try out new strategies and hypotheses. "In exploratory learning, the instructor provides limited instruction and guidance and the emphasis is on student-generated learning through exploring and discovering information." (Baddagh & Bannan-Ritland, 2005:211) Examples include web-based resources through hypermedia and multimedia links to support students' exploratory activities, providing a link to a search engine in the course

web site to enable students to search for and explore web-based resources. Links can also be provided to links to online databases and knowledge repositories that provide real-time data such as the latest weather information and other scientific data and statistics. (Baddagh & Bannan-Ritland, 2005:211ff)

### **2.3.5 To promote hypothesis generation**

Promoting hypothesis generation supports acquiring concepts by giving possible hypotheses about the characteristics of a certain concept, and then testing examples against these hypotheses. Examples include making use of self-contained instructional modules such as a microworld developed with an authoring tool. Learners can also be presented with unfinished real-world events for which learners should then provide an ending. (Baddagh & Bannan-Ritland, 2005:212ff)

### **2.3.6 To promote role-playing**

During role-playing learners assume other roles, for example the role of a scientist, or a physician. The student should then act out real world situations. This can be accomplished online by making use of discussion forums, computer conferencing and virtual learning environments. (Baddagh & Bannan-Ritland, 2005:213ff)

### **2.3.7 To promote articulation**

"When students are provided with opportunities to articulate their knowledge or understanding of something, they are explaining to others what they know." (Baddagh & Bannan-Ritland, 2005:214)

Examples given by Baddagh & Bannan-Ritland (2005:215) include making use of discussion tools, or engaging groups in brain storming tasks making use of chat rooms. Another example would be groups working on a document in which the students articulate solutions to certain problems.

### **2.3.8 To promote reflection**

"Reflective thinking involves analyzing and making judgments about what happened in the past as a way to give a situation new meaning." (Baddagh & Bannan-Ritland, 2005:216) Examples given are peer evaluation of other learner's work, keeping online journals, or making use of online discussions.

### **2.3.9 To promote multiple perspectives**

Learners are exposed to multiple points of view, which should guide them in their understanding and constructing of new knowledge. Examples given by Baddagh & Bannan-Ritland (2005:219)



include links to web sites containing different perspectives, including discussion areas where students can give their point of view.

### **2.3.10 To promote modeling and explaining**

Learners are given examples of what an expert's performance looks like. "Essentially, modeling shows how a process unfolds, whereas explaining involves giving reasons why it happens that way. For example, when teachers model and explain they verbalize internal information processing and reasoning while performing the procedures involved in a task." (Baddagh & Bannan-Ritland, 2005:220) Examples of modeling and explaining include web sites which provide solutions to problems, or videos of experts' performance, or access to synchronous chat areas where an expert can walk a student through a problem-solving process. (Baddagh & Bannan-Ritland, 2005:220ff)

### **2.3.11 To promote coaching**

Coaching means that students are monitored and helped as needed. Examples given by Baddagh & Bannan-Ritland (2005:220) include creating learning tasks, which provide hints or advice, or links to web sites that provide guidance. A synchronous chat area where experts can help students can be created or a web-based area where students explain how they completed a task can also be provided.

### **2.3.12 To promote scaffolding**

Scaffolding means that new learners are supported in completing tasks until they have gained some skills and knowledge so that they can complete the tasks by themselves. Examples of scaffolding given by Baddagh & Bannan-Ritland (2005:223) include the following: one-on-one guidance using e-mail, providing links to search engines, providing a discussion or chat area where students can get help, links to glossary of important terms and their definitions.

### **2.3.13 To promote self-directed learning**

Baddagh & Bannan-Ritland (2005:223) defines self-directed learning as "the skill of learning how to learn or being metacognitively aware of your own learning." Learners should learn how to manage their time, how to understand monitoring and how to self-evaluate. Examples given are the following: Asynchronous discussion forums can assist learners in keeping track of their progress. Rubrics can be provided and evaluation criteria can be given for course assignments to support self-evaluation.

It is also imperative that the courses are organised, to ensure a structured learning experience. The design of the lesson plans is based on the design given by Gilbert & Gale (2008:194ff). They based their design on Gagné's learning events, but added two learning events to his list of nine.

The 11 events are:

1. Gain attention
2. Inform learner of objectives
3. Stimulate recall of prior learning
4. Assess prior learning
5. Present materials
6. Provide learning guidance
7. Elicit the performance
8. Provide feedback
9. Assess performance
10. Enhance retention and transfer
11. Evaluate

The next aspect to consider is the online transaction. How does it take place? Does it differ in any way from the transaction that takes place in a classroom? Is it possible to expand on this transaction?

## 2.4 The e-learning transaction

The e-learning transaction is considered to consist of five key exchange acts, summarized as 'tell', 'show', 'ask', 'respond' and 'give feedback'. The structure of a general e-learning transaction is illustrated in the following figure (Gilbert & Gale, 2008:5).

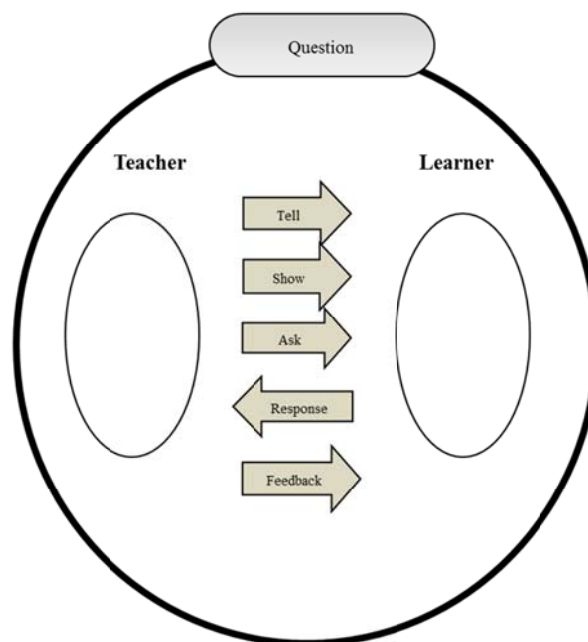


Figure 2.1 Structure of general e-learning transaction (Gilbert & Gale, 2008:5)

I propose that the roles of the teacher and the learner, as depicted in the diagram, can be enacted by various role players: the content, teachers, or other learners. Learners should be able to learn not only from teachers, but also from one another.

The program or other participants should provide information, and the learner should have the opportunity to respond to this information. The learner should then receive feedback on this response. This can be done in a number of ways; for example, online assessments can be created that provide automated feedback. This feedback can consist of marks and feedback provided by the designer of the quiz. Optimally, the learner should get the opportunity to engage actively with the feedback.

A second option for providing feedback is feedback given by other learners. Learners can write a blog or take part in an online discussion. The feedback will then come from either other learners or the course facilitator. Again, the learner is able to react to this feedback.

Correct feedback will provide for a meaningful learning experience. What should feedback look like? When does feedback become valuable and does it enhance learning? The following section will detail how feedback could be provided in order to enhance the learning experience.

## **2.5 Formative Assessment and Feedback**

Formative assessments are assessments that are used during the learning process. These assessments can be marked, but the marks usually do not contribute to the final mark of the learner. When making use of formative assessments, the focus should not be on the marks, but on what the learner knows at that stage. Learners should be able to learn from the feedback so that they will not make the same mistakes again. The feedback should therefore direct the learner to the right answer.

Assessments can take many forms. It can be in the form of a test, or an assignment like a written document. It can also be much shorter like taking part in a discussion. Assessments can be self-assessed, where learners assess their own work; or peer-assessed, where learners assess each other's work; or assessed by a teacher. Assessments can also be divided into formative assessments and summative assessments. Formative assessments form part of the learning process. Marks generated do not necessarily contribute towards the final grade, unlike summative assessments that do contribute towards the final grade.

Black & Wiliam (2007:4ff) who did research on formative assessment and feedback, concentrating on primary and secondary school learners, give the following main characteristics of formative assessment:

- it is essentially interactive and adaptive;
- it uses a variety of inputs;
- it can be a dialogue lasting a few moments, or a review of a whole topic;
- it promotes the active involvement of students in generating their own learning;
- its activity is a central feature of a teacher's practice of instruction

Feedback should therefore enhance collaboration between the learner and the teacher; it should be able to adapt to the circumstances. Feedback should also take many forms, e.g. a discussion or an analysis of a large piece of work. It should encourage learning, and should form an integral part of the learning process.

Cauley & Mcmillan (2010:2) found four reasons why students learn more through formative assessment:

1. Frequent, ongoing assessment allows both for fine-tuning of instruction and student focus on progress.
2. Immediate assessment helps ensure meaningful feedback.
3. Specific, rather than global, assessments allow students to see concretely how they can improve.
4. Formative assessment is consistent with recent constructivist theories of learning and motivation.

Black & Wiliam (1998:83ff), however, identify three issues that revolve around assessment. The first concerns the effectiveness of the learning process. They found that the tests used by teachers encourage rote and superficial learning, even though teachers say that they create tests that should develop understanding. The questions and methods do not correspond to what they are actually trying to assess. Primary teachers especially have a tendency to emphasize quantity and to disregard quality in relation to learning.

The second problem that they identified is the negative impact of the assessments on learners. Marks and grading are overemphasized, and advice on how to improve is underemphasized. Learners are compared to one another and competition rather than personal improvement is encouraged. Therefore, the feedback makes low-achieving pupils feel that they are unable to learn.

Research experiments have established that, while student learning can be advanced by feedback through comments, the giving of numerical scores or grades has a negative effect, in that students ignore comments when marks are also given. These results often surprise teachers, but those who have abandoned the giving of marks discover that their

experience confirms the findings: students do engage more productively in improving their work. (Black & Wiliam, 2004:13)

The third issue is the administrative role that assessments play. "Teachers' feedback to pupils seems to serve social and managerial functions, often at the expense of the learning function. Teachers are often able to predict pupils' results on external tests because their own tests imitate them, but at the same time teachers know too little about their pupils' learning needs." (Black & Wiliam, 1998:84) Marks are considered more important than to analyse a pupil's work to determine his/her learning needs.

A performance-goal orientation (also called an ego-involved orientation by Cauley & Mcmillan, 2010:3) stresses appraisal of students' abilities. Learners' marks are made public; thereby promoting performance goals. Learners' performance is linked to their individual ability. Learners who perform well are rewarded, while learners who do not perform well are not rewarded, which leads to discouragement.

Cauley & McMillan contrast performance goals with what they call mastery-goal orientation. "A mastery-goal orientation emphasizes learning, understanding, improving, mastering new skills, and taking on challenges." (Cauley & McMillan, 2010:3) Teachers can promote mastery goals by evaluating a student's progress and not his/her performance. Learners should get opportunities to improve and mistakes should be seen as part of the learning process. Evaluation methods should vary and should not be made public.

According to Cauley & Mcmillan (2010:3) learners who pursue mastery goals show positive characteristics. They use higher intellectual thought. They can more easily relate new learning to prior knowledge and they are also more persistent when facing difficult tasks.

In contrast to this, learners who pursue performance goals show characteristics that are more negative. They are more likely to procrastinate, study superficially and sometimes display cheating behaviours. Recognition is very important to these learners. (Cauley & Mcmillan, 2010:3)

Formative assessment also gives many opportunities for self-assessment, which should involve more than simply checking answers. A learner should identify ways of improving his/her understanding. "Self-assessment is three-step process in which students judge their own work (self-monitor), identify discrepancies between current and desired performance (self-evaluation), and identify and implement further learning activities to enhance their understanding or skills." (Cauley & Mcmillan, 2010:4)

According to Cauley & Macmillan (2010:5), self-assessment also promotes student autonomy in which students are in control of their learning process. Self-assessment also helps students to

understand what is expected from them and what to do to meet the learning goal which also gives them high expectations for success.

The most important aspect of any assessment, therefore, is the quality of feedback received. Learning cannot take place without meaningful feedback. Various researchers have identified that even though the most common form of feedback is grades, they seem to be completely inadequate. A learner needs to learn from feedback how to correct the mistakes and not how well he/she performed. Therefore, meaningful feedback should consist of more than just marks. It should direct the learner to finding the right answer.

The most important aspects concerning feedback are summarized by Gibbs in *Innovative assessment in higher education* by Bryan & Clegg (2006:51) and are as follows:

#### ***Quantity and timing of feedback***

- Sufficient feedback is provided, both often enough and in enough detail
- The feedback is provided quickly enough to be useful to students

#### ***Quality of feedback***

- Feedback focuses on learning rather than on marks
- Feedback is linked to the purpose of the assignment
- Feedback is understandable to students

#### ***Student response to feedback***

- Feedback is received by students and attended to
- Feedback is acted upon by students to improve their work or their learning.

Even though these features of feedback focus on higher education, they are just as important in secondary education. In any type of learning, whether in higher education or secondary education, feedback should be quick and detailed. It should focus on learning; it should be linked to the purpose of the assignment and learners should understand the feedback. It is also important that learners respond to the feedback. Each of these will be discussed in further detail in the next section where their use of the word 'student' will be replaced with 'learner', as this study is specifically focused on secondary school learners.

### **2.5.1 Quantity and timing of feedback**

In a standard classroom environment, when learners write a test, they sometimes have to wait for long periods for a teacher to complete the marking. The feedback on these assessments often

consists of only the marks. A teacher might discuss the memorandum in class, but by then it might be too late for the learner to learn from the mistakes that he/she had made.

An LMS makes it possible to create online tests that are marked automatically, thereby making it possible for learners to receive immediate feedback. This feedback does not necessarily consist only of the marks, but can and should also include detailed explanations added by the teacher. In this way sufficient, detailed feedback can be provided timeously so that the learner can find it useful.

Because the emphasis at schools is usually placed on the marks received in assessments, learners seldom bother questioning the feedback, unless it could enhance their marks. In other words, they will concentrate when a teacher discusses the memorandum, but only to see where the teacher marked incorrectly. They might use feedback given on an assessment to study for a next test or examination, which means that they only engage with the feedback at a later stage. For adequate learning to take place, it is vital that the learner actually engages with the feedback as soon as possible after the assessment has taken place. A learner should learn from a mistake when the mistake is made.

### **2.5.2 Quality of feedback**

Feedback to any pupil should be about the particular qualities of his or her work, with advice on what he or she can do to improve, and should avoid comparisons with other pupils. (Black & Wiliam, 1998:84)

Feedback to students that focuses on developing skills, understanding, and mastery, and treats mistakes as opportunities to learn is particularly effective. By showing students specific misunderstandings or errors that frequently occur in a content area or a skill set, and showing them how they can adjust their approach to the task, students can see what they need to do to maximize their performance. (Cauley & Mcmillan, 2010:3)

Black & Wiliam (1988:86ff) stress the importance of good quality feedback. According to them research has shown that learners do not benefit from only marks or grades. It is even worse if a learner gets low marks all the time. Feedback improves learning when it gives guidance to a learner's strengths and weaknesses. Overall marks should preferably be avoided.

Ruth Butler conducted a study in which she gave three different types of feedback to three different groups of students. Her study is described in *Formative assessment in the secondary classroom* by Clarke & Fisher (2005:68ff). The feedback consisted of marks/grades; comments; marks/grades and comments. The study showed that the group who received only comments

performed better in examinations than the other two groups, who showed very little or no gains. The group that received positive comments and grades concentrated on the grades and ignored the comments. (Clarke & Fisher, 2005:69)

If a learner continuously scores low in assessments, he/she becomes discouraged. Concentrating on marks as a form of feedback can, in fact not lead to improved learning. Effective feedback should encourage and should enable a learner to improve. Clarke & Fisher (2005:69) also mention that "many studies have shown that work marked by 'comment-only', with grades given only at the end of units, increases motivation and achievement – findings which cannot be ignored."

Teachers in South Africa often have to teach more than 30 learners per class and on average five classes per day, which means that it becomes very difficult to give detailed feedback on every assignment those learners hand in. It is, however, not always necessary for the teacher to provide the marks and the feedback as he/she can also make use of peer and group assessments, where learners give feedback on other learners' work.

Peer and group feedback can easily be accomplished online by making use of forums, blogs or wikis. A teacher can keep track of what the learners do online, ensure that the comments given are positive, and contribute to the improvement of learning.

### **2.5.3 Learner response to feedback**

Black & Wiliam (2004:14) summarize the main ideas for how to improve the quality of feedback as follows:

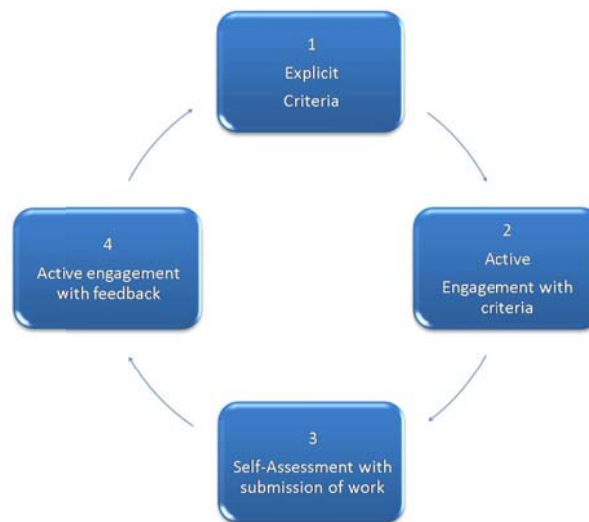
- Written tasks, alongside oral questioning, should encourage students to develop and show understanding of the key features of what they have learned.
- Comments should identify what has been done well and what still needs improvement and give guidance on how to make that improvement.
- Opportunities for students to respond to comments should be planned as part of the overall learning process.

Adaptive Mode, which forms part of Moodle's quiz tool, makes it possible for a teacher to design a quiz that forces a learner to interact with feedback while he/she is taking the quiz. Other software, like Hot Potatoes or Adobe Captivate, also makes this possible. This means that a learner has to submit each answer given, while doing the assessment. The learner immediately receives feedback upon submitting the answer. This forces a learner to engage with the feedback while he or she is still busy with the assessment. The learner is then given another chance to submit an answer if the first answer is wrong. A learner can re-answer the question until the



answer is correct. When the assessment is completed, the learner has already been given feedback on answers, and has been able to correct any mistakes that were made. The learner can also review the assessment feedback at the end and can then be given the option of completing the assessment again, thereby improving on a previous attempt.

These quizzes can only consist of short questions, i.e. questions that can be marked by the system; for example multiple choice questions, short answer and matching questions. However, how can feedback be given to longer questions? How can learners assess their skills in answering essay type questions if this is not done by the teacher? Is quality feedback possible without a teacher? To answer this, consider the following Constructivist Assessment cycle.



*Figure 2.2 Constructivist Assessment Cycle (Bryan & Clegg, 2006:121)*

The cycle starts with providing explicit criteria on the assessment task. The student then has to engage with the criteria by assessing what he/she has completed and in this manner actively engage with the feedback.

This cycle can also be recreated online.

1. The teacher gives the title of the assessment and the instructions for the essay.
2. Now the learner completes the essay as part of a blog activity.
3. The learner then engages with the marking criteria. The marking criteria should be specific and clearly indicate what was expected from the essay. The learner uses these marking criteria to mark his/her own essay; i.e. self-assessment.
4. In this way, a learner is required to engage with the feedback. He/she can identify his/her weaknesses and can therefore improve.

Learners can also be given access to other learners' essays, so that they can mark one another's work. If using the blog tool in which to create these essays, other learners can also view the essay and comment on it. This will allow peer-assessment as well as self-assessment.

Clarke & Fisher (2005:76) emphasise the importance of allowing learners to be part of the assessment process and that learners should be given the time to make improvements on work done.

Feedback is crucial in the learning process, and should involve not only the teacher, but also the learners themselves. Using a Learning Management System like Moodle makes it possible for teachers and learners to collaborate in a virtual space. It gives easy access to completed assessments, and makes it possible for both the teacher and other learners to deliver positive feedback in a space where everybody can see it and learn from it.

The social interaction that takes place during the e-learning process is one of the characteristics of the social constructivist learning theory, which is used as the underlying learning theory in the design of the online courses on *Nothing But The Truth* and the Short Stories that were created as part of this study.

Most of the available tools in Moodle provide some form of interaction among learners. The various tools that are used in the design of the courses are described and an explanation on the selection of Moodle as the LMS of choice is given in the next chapter.

## Chapter 3: The Learning Management Systems

The three most widely used Learning Management Systems in South Africa are Blackboard, Sakai and Moodle. Blackboard is an example of proprietary software and Sakai and Moodle examples of open source software.

### 3.1 Open source software vs. Proprietary software

Open source software is software that is developed by a number of developers collaboratively and is freely distributed. Open source software differs from proprietary software in that the source code is made available to all users. Anyone can modify, re-use and distribute the software. This makes it possible for any user to modify the software to suit his/her own specifications. Anyone can also develop new solutions, and add to the current source code.

Open source software is usually copyrighted but under different licensing. Complete details on open source licensing can be found at <http://www.opensource.org/licenses/index.html>.

Proprietary software is developed by a company that employs a number of programmers who create a specific software package. The source code is protected by licensing and copyright and inaccessible to users of the software. This makes it impossible for outsiders to modify or contribute to the source code of the software. The product is sold to customers, often at exorbitant prices.

Sakai and Moodle are examples of open source Learning Management Systems (LMS) or Virtual Learning Environments (VLE). The LMS has become widely used around the world as a tool for creating online dynamic web sites for learners. To work it needs to be installed on a web server, where it can be accessed by means of the internet or, alternatively, on a computer that forms part of a network, which will then act as the local network server. Anyone working on one of the computers in that network will then be able to access the system (About Moodle, 2010).

Blackboard is deployed in a similar fashion as Sakai and Moodle. The fact that Blackboard is proprietary software, and therefore quite expensive, made it impractical to use for this study so it was not taken into consideration in the selection process.

### 3.2 Moodle versus Sakai

Moodle stands for Modular Object-Oriented Dynamic Learning Environment. It can be used by educators to manage and promote learning in various ways. Because it results in a dynamic website, it means that both teachers and students can continually contribute to the learning content.

Moodle is extremely scalable and can be used for very large deployments with thousands of students, but it can also be used for small schools with a few hundred pupils.

It can be used by institutions for full online courses or it can be used for blended learning, where some of the learning takes place in class and this learning is then supplemented or enhanced by online learning.

In South Africa, there are 180 registered Moodle sites to date. Examples are: Faculty of Health Sciences at the University of the Witwatersrand (<http://amd.health.wits.ac.za/>), Hatfield Christian Online School (<http://www.onlineschool.co.za/moodle/login/index.php>), Language Online Learning (<http://www.lolclassroom.com/moodle/login/index.php>), and Westridgess High School (<http://westridgess.co.za/>). More examples can be found at <http://moodle.org/sites>.

Moodle is provided freely as open source software under the GNU Public Licence. Moodle is copyrighted, but anyone is allowed to copy, use and modify it on the condition that you provide your enhancements or contributions to others. You are not allowed to remove or modify the original license and copyrights, and you have to apply this same licence to any copied work.

Moodle is coded with PHP programming language. It uses SQL type databases, e.g. MySQL. It can run on Windows and Mac operating systems and some Linux, for example Red Hat or Debian GNU. In other words, it can be used on most computers all over the world. (About Moodle, 2010)

"Sakai is a flexible, enterprise application that supports teaching, learning and scholarly collaboration in either fully or partially online environments." (Sakai, 2010) Sakai is also an example of open source software, which means that it is freely available and that anyone can make changes to the source code. Sakai software is licenced under the terms of the Educational Community Licence, version 2.0.

Sakai is similarly highly customizable. This means that the architecture is modular and a teacher can decide which tools he/she wants to use. Courses can therefore be created to suit a teacher's needs. It is also highly scalable, which means that it can handle very large installations of over 20 000 simultaneous users. (Sakai, 2010)

The University of Cape Town (<https://vula.uct.ac.za/portal>), North-West University (<http://efundi.nwu.ac.za/portal/>) and Gert Sibande FET College (<http://www.gscollege.co.za/>), are examples of institutions that use Sakai as Learning Management System.

### 3.3 Review of the two Learning Management Systems

#### 3.3.1 Moodle's functionalities as described by WCED

Osman Sadeck, head of the WCED e-Learning sub-directorate, compared Blackboard, Sakai and Moodle to determine which LMS will be used by the WCED.

In the report by Osman Sadeck, the WCED e-Learning sub-directorate recommends Moodle as it provides several functionalities that make it ideal to use in the South African school environment. The report identified the following features of Moodle:

- It provides a safe, secure managed digital learning environment
- It is browser-based and compatible with the TCP/IP network protocol
- It is able to be deployed over the internet, in local networks and on standalone units
- It is portable, which makes it distributable to remote areas without internet connectivity
- It is SCORM, AICC and IMS compliant
- It is customisable, scalable, upgradable and adaptable
- It can integrate with existing WCED database systems
- It provides for interaction, interactivity, collaboration and co-operation
- It is suitable to deliver / facilitate online and blended learning to a large numbers of users and is scalable in successive years in a phased approach
- It is simple to administer and to setup courses and to configure
- It is cost effective (initial, developmental and maintenance)

(Sadeck, 2009:2)

The most important aspects are:

#### a) It provides a safe, secure managed digital learning environment

Moodle provides a number of security measures that can ensure that learners are safe in the online environment.

Creating learners on the Moodle platform are mainly done by means of e-mail based self-registration or linking to an existing database.

The most secure method is linking to an existing database; in other words, if a school uses a Moodle system, only learners from that particular school will be able to log into the system. In this case, e-mail based self-registration is disabled. When making use of e-mail based self-registration, the following security measures can be put into place:

**i) Enable reCAPTCHA element.**

A CAPTCHA is a program that can tell whether its user is a human or a computer. It displays a colourful image with distorted text at the bottom of a Web registration form. CAPTCHAs are used by many websites to prevent abuse from 'bots', or automated programs usually written to generate spam. No computer program can read distorted text as well as humans can, so bots cannot navigate sites protected by CAPTCHAs. (What is reCAPTCHA?, 2010)



*Figure 3.1 Example of CAPTCHA element.*

**ii) Allowed email domains**

Email addresses can also be restricted to only certain domains. For example, if one wants to ensure that only users from the Western Cape are able to enrol, then the email addresses can be restricted to 'wccape.school.za'.

**iii) Secure login**

When a user wants to do anything on the system, he/she must be logged in. In this way, everything that a user does can be monitored. Users can also be denied access if he/she misbehaves in any way on the site, for example if a user tries to get personal information from any other users, or use the forums to insult other participants.

**b) It is portable, which makes it distributable to remote areas without internet connectivity**

It is possible to create a Moodle system in a classroom. One computer can be set up as a server and other computers can be given access to this computer. In this way, the computers do not need internet access to get to the resources.

Moodle courses can be backed up on existing systems, copied to a flash drive and then imported into any other Moodle systems. In this way, it will be possible to distribute resources to other systems.

**c) It provides for interaction, interactivity, collaboration and co-operation**

Moodle was designed to support the constructivist, constructionist and especially the social constructivist learning methods as it has various interactive tools, like wiki's, and the forum, where learners can collaborate and interact. In this way, it will be possible for them to learn from one another. This will also allow pupils who are shy to speak in class to participate and give them a chance to air their views.

**d) It is suitable to deliver / facilitate online and blended learning to a large numbers of users and is scalable in successive years in a phased approach**

The Moodle platform can be used for online courses, or as part of face-two-face courses. The Moodle system is scalable and can accommodate increased number of users in a phased roll-out as time progresses. The system can be easily be upgraded and is backward compatible.

**e) It is simple to administer, to set up courses and to configure**

Setting up the Moodle system requires one to complete a wizard that takes one through the whole installation process that configures and sets up the database. Extensive documentation is also available to help with the configuration of the system. The Moodle website, <http://www.moodle.org> has a number of active forums as well, where anyone can post questions if they experience problems or are not sure what to do.

**f) It is cost effective (initial, developmental and maintenance)**

Moodle is open source product. It is free to download and use. It is also possible to access the source code, so anyone can make changes to it.

The fact that the WCED plans to use Moodle as a Learning Management System was a very important factor in my choice of an LMS. The courses that I created can be backed up to any of the WCED's Moodle installations and used by secondary schools throughout the province.

### **3.3.2 Moodle's Mobile Capabilities**

Another important functionality not mentioned by Sadeck, is Moodle's mobile functionality. Currently Moodle is the only LMS, which can be accessed by means of any cellular phone with Internet access.

Mobile learning refers to any learning done with the aid of handheld devices. One of the biggest advantages of mobile learning is the fact that cellular phones are available anytime and anywhere. Mobile learning can happen in short time periods, for example on a bus to school. This means that the learning time is shorter, so activities should be included that can be

completed in a short period, for example taking part in an online discussion, or completing a short quiz.

A survey conducted by Kukulska-Hulme (2008:283) revealed that until recently Mobile Assisted Language Learning concentrated on teacher-learner, text-based content. Very few collaborative activities were incorporated which means that learners could not take part in knowledge building. This could be attributed to a number of reasons, one being that cellular phones did not give access to collaborative spaces where more than two persons could take part in online learning spaces. This has changed in the last few years when access from cellular phones to online social spaces like Mxit and Facebook has become quite widespread.

MLE-Moodle was created as an added plug-in to Moodle. It is installed separately from the main Moodle installation. By applying a different style sheet, the content generated on Moodle is made viewable from a cellular phone.

The following screen capture is an example of what a Moodle site looks like from a computer.



Figure 3.2 Moodle site as seen from a computer.



The next screen capture is an example of what the same screen looks like from a cellular phone, using MLE Moodle.

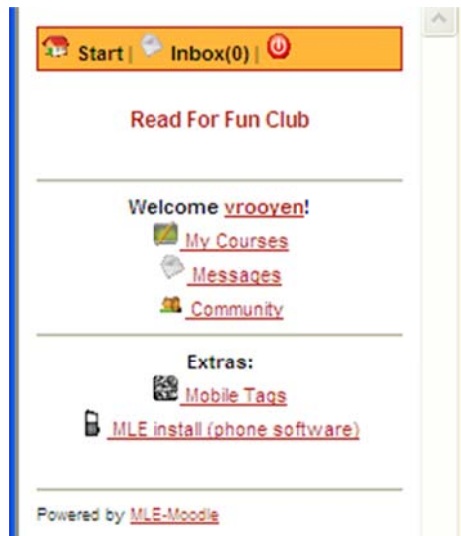


Figure 3.3 Moodle site as seen from a cellular phone, using MLE Moodle.

A completely different style sheet is used and only the most important content is displayed. When MLE-Moodle is added, a separate module is created, which is the Community module. This module is not displayed on a computer. This module gives a participant access to his/her profile tools, e.g. the blog tool. When you access the Moodle site from a computer, your profile is accessible by clicking on your name.

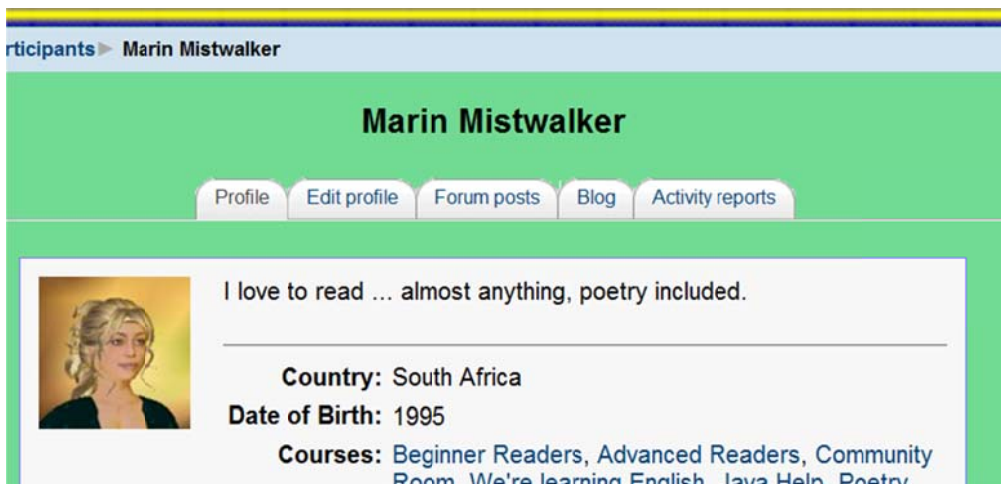


Figure 3.4 Profile screen as seen from a computer

This is not possible when logging in from a cellular phone. You have to access the Community module to gain access to your profile or blog tool as seen from the next screen capture.

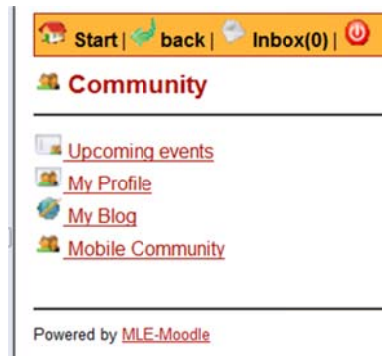


Figure 3.5 Community module, which gives access to personal profile from cellular phone

Participants can also take part in discussions in this module, which could be more personal or general and not necessarily course related.

Users can gain access to all the courses they have access to from a computer, by clicking on the *My Courses* link. Learners can do almost everything using MLE-Moodle that they can do from a computer. They can complete the quizzes, take part in discussions, complete a blog entry and do the lessons. The extra tools that are provided via plug-ins, for example the OU Blog tool, are usually not accessible from a cellular phone.

MLE-Moodle also provides another functionality that enables one to install mobile phone software on a cellular phone, which is called MyMLE. Any cellular phone with web access can be used.



Figure 3.6 Example of MyMLE application ( <http://mle.sourceforge.net/mymle/index.php?lang=en>)

Example of what the software looks like once it has been installed on a cellular phone.

The educator creates the content and makes it available in a Moodle course. The learner can then gain access to this content via the MyMLE application that was installed on the cellular phone. The learner can then download this content to his or her cellular phone. Once this content has

been downloaded, the user can access this content from the cellular phone, because everything is on the user's phone. Examples of content that can be created are:

- Flash-card trainers that can be used to learn vocabulary.
- Images, audio and video can be added to the learning content.
- Quizzes can be used that contain, for example, multiple choice questions or gap-fill questions.

This makes it possible for educators to create interactive content that learners can use to study. Once the learner has downloaded the learning activities to the cellular phone, the learner can complete the quizzes, use the flash-card trainers and watch the videos repeatedly without having to access the web again to gain access to the content.

### 3.3.3 Comparison of tools provided by each LMS

In comparing the Learning Management Systems, the available tools each LMS offers were carefully appraised as each LMS respectively has a number of social learning tools like forums, blogs and wikis. In addition Moodle also has other tools, like the database tool and the glossary tool that are aimed at group activities and since the importance of learning in a social context has been established in the previous chapter, the decision was to select Moodle.

The following table compares the available tools provided by each LMS. This list only contains the main tools available for each LMS and does not contain the huge number of extra tools available for Moodle by means of plug-ins or add-ons. I also concentrated on the tools that I wanted to use in the learning program.

<b>Moodle</b>	<b>Sakai</b>
Web pages	Web pages
Forums	Forums
Blogs	Blogs
Wikis	Wikis
Quizzes (with adaptive Mode)	-
Quizzes	Quizzes
Collaborative glossaries	Glossaries can only be completed by lecturer
Collaborative databases	
Lessons	-
	-

A significant tool that Moodle possesses which neither Sakai nor Blackboard has, is the Adaptive Mode available as part of the quizzes. Adaptive Mode enables a designer to design quizzes that provides feedback while the learner is busy with the quiz. A learner, therefore, answers a question and when he/she submits the answer, feedback is immediately given. The learner does not have to complete the whole assessment before engaging with the feedback. This is a very important feature of the quiz tool where it concerns feedback, which is described in more detail in Chapter Four.

My selection of Moodle as the LMS for the learning program is based on its support by the WCED, its mobile functionality and the fact that it has a larger variety of learning tools available than Sakai.

### **3.4 Description of tools used and why they are relevant to language learning**

As previously mentioned, Moodle offers a number of tools with which learning activities can be created. The online tools used in the design of the courses created for this study, are discussed below and examples are given how these activities can contribute to the learning of a new language.

#### **3.4.1 Forums**

The forums allow any learner to start a discussion. A learner can for example ask a question on a certain topic that is not clear to him/her. Other learners then have the opportunity to answer this question, thereby participating in this discussion. The contributions can be seen by all participants who are enrolled for the course. In this way, learners can learn from other learners. If a teacher is present, he/she can facilitate the process and make sure that the discussion is kept on track.

Miyazoe & Anderson (2009:191) conducted a research in the use of forums, blogs and wikis in teaching English as a foreign language at the University of Tokyo, Japan. The aim of their study was to find out how students perceived each of the tools and if the tools were effective in helping the students with their language learning. Their study found that "both forum and blog posts featured a slightly higher level of vocabulary, more complex sentences, and an improved reading level" at the end of the course (Miyazoe, et al., 2009:191). By then, the students were also able to write sentences that are more complex. The students enjoyed the wikis the most, followed by the blogs and forums. This study shows that the use of online communication tools can improve language use.

### 3.4.2 Blogs

Faculty who uses weblogs find the greatest benefit of weblogging to be the opportunity for self-expression and perhaps the self-reflection that accompanies considerations. The observation that students can 'blow off steam', for instance, is a form of expression that allows students to take in new material, ideas, and thoughts, process them, and then provide some form of feedback or synthesis on this new thinking. The process of reflection is important to effective instruction, and weblogging has a dual benefit in this regard as it allows for a greater level of application than might be afforded to other more traditional forms of instruction that are relegated to specified chronological times for meeting. (Brescia & Miller, 2003:49)

Learners can make use of the blog tool where they can share their opinions about course content. Moodle's own blog tool does not allow for comments, and is only available under a user's profile. It is therefore not possible to use the built-in Moodle blog tool as an activity in a course, but *OU blog* is a module that can be added as a plug-in to any Moodle System. This enables the designer of the course to add a blog as an activity. A blog activity can then be used to give the opportunity for learners to express their own views and ideas on the content they are learning. Other learners and/or the teacher can then view these blogs and comment on them. In this way, learners can be exposed to other thoughts and ideas and this can also create opportunities for learners to peer-review the work of other learners.

### 3.4.3 Wiki

A wiki is a collaborative space where anyone who has access to it can create or edit existing content. Wiki's are ideal to use for group projects. In a traditional school environment it is often difficult for learners to get together to work on a group project. Learners generally take part in various extra-curricular activities, which makes it difficult to find a time to get together. Learners also do not always live close to one another, so travelling can also prove to be a problem. Using the wiki tool as part of a group project makes it possible for a learner to complete his/her entry when he/she finds the time for it. Other learners who form part of the group can then complete their section at another time that suits them. In this way a group can work together to complete a group assignment.

A study was conducted by Castek, Zawilinski, Barton and Nierlich during which learners from different schools were asked to collaborate in a wiki. It was found that "writing for an audience of their peers motivated both classes to extensively revise and edit. In contrast to pencil-and-

paper writing activities, students enthusiastically reworked their ideas to help their virtual partners grasp the ideas they wanted to communicate" (Boling et al., 2010).

I believe that Grade 12 learners from different schools can learn from one another in the same way. Using Moodle will make it possible for learners from different schools to collaborate on the same project and therefore contribute to an improved learning experience.

#### **3.4.4 Quizzes**

Moodle's quiz tool possesses a function that neither Sakai nor Blackboard has. When creating a quiz in Moodle, one has the option of using Adaptive Mode or not. When using Adaptive Mode a learner has the opportunity to submit an answer to a question, and receive immediate feedback. If the feedback indicates that the answer is wrong, the learner can then submit another answer to the same question. In other words, the learner is forced to engage with the feedback. A penalty can be applied, which means that marks are subtracted for every wrong attempt. These assessments can be set so that they can be redone any number of times. A learner can therefore redo the quizzes until he/she gets 100 % for the quiz, which means that the learner was able to supply the right answer to all the questions on the first attempt at answering the question. These quizzes are ideal to use for formative assessment.

When Adaptive Mode is not used, the learner has to answer all the questions, submit everything, and only then receives feedback. These quizzes are ideal to use for summative assessment.

#### **3.4.5 Lessons**

Lessons can be used to teach new content to learners. Lessons typically consist of a series of interactive pages where the learner is presented with a choice and, depending on the answer, a next page is displayed. A number of options are available in the design of lessons. A lesson can be presented in a linear fashion, like a slide show, or in a non-linear, branching manner, or a combination of the two. The choice that the learner makes determines what will appear next. If the learner makes a wrong choice, he/she can be sent back to a page where the content is reviewed, while supplying the right answer will give the opportunity to advance to the next section. The learner therefore directs the lesson. A specific answer will send the learner to a specific page, while another answer can send him/her to another page. This all depends however on how the lesson was created.

Lessons are easy to create. An HTML editor tool is made available which allows one to add pictures, links, tables and other graphics to the lesson to make it more interesting.

Two types of lesson pages exist: navigation and choice. Choice pages consist of either *branch tables* or *question pages*. Branch tables will direct the learner to another page. Question pages will also do this, but individual responses and marks can be added to a question page.

If the question type used is a multiple-choice question, then the response to a wrong answer can prompt the learner to re-answer the question and feedback can be given on why this answer is wrong. A right answer will then direct the learner to another page.

Grades are determined in two ways. In the first method, if a learner gives the correct answer and is directed to another page he/she gets a mark. If the answer is wrong then no marks are allocated. If custom scoring is selected, a learner can get marks for any answer, for example 3 marks can be given for a correct answer, 1 for an answer that is not completely wrong and 0 for a wrong answer. Negative marking can also be included.

The marks are calculated by dividing the number of correct answers with the number of question pages seen by the learner. Grades for lessons are also added to the Grade Book. With custom grading the marks scored by the learner is divided by the total point possible.

A learner does not have to complete a lesson in one sitting. He/she can start a lesson and complete it at a later time. He/she will not of necessity have to start the lesson from the beginning, but will be given a choice to restart the lesson or continue at the point he/she left the lesson the last time.

Lessons can also be used to create formative assessment exercises. Learners can get grades for completing a lesson, which can be used to encourage the learner to redo the lesson until 100 % is scored for the lesson. The lessons can be redone until the learner fully understands the content.

Question types supported by the lesson activity include multiple choice, multi-answer, short answer, true/false, matching questions, numerical questions and essay questions.

A dependency setting can be activated, which allows the current lesson to be dependent upon a learner's grades in another lesson of the same course. For example, lessons can be put in a specific order and a learner first has to complete and pass one lesson before he/she can gain access to the next lesson. (Lesson Module, 2010)

### **3.4.6 Glossary**

The glossary is used to provide the learner with terms used in the course. The learner is able to look up these terms when he/ she wants more information on a particular term used in the course.

The glossary can be created in such a way that learners are able to contribute to the glossary, which again provides for collaborative learning opportunities. Learners can be asked to

collaborate and create a complete glossary of terms used in the course. Moodle also makes it possible for learners or a teacher to grade entries in the glossary.

When learners have to create the definitions themselves, they are more likely to remember them. Learners can also rate glossary entries and make comments on them. The glossary tool also has an auto-linking feature with forums. This means that if a word that is defined in a glossary is used in a forum, the word is highlighted and linked to the glossary entry. Marks can for example be given to learners for using words as part of a forum discussion, which are defined in the glossary.

In learning a new language, the use of a glossary can be particularly helpful to help learners to learn new words and concepts. And because this is another interactive tool, this can also be done in a social context, where learners can learn from one another (Glossary Module, 2010).

### **3.4.7 Database**

The database activity module allows the teacher and/or students to work together to build a database of records on anything they want to. The format of the entries can consist of, amongst others, text, multiple choice entries, multi-select entries and drop down lists.

Any participant in the module is able to add records or to edit current records. The teacher is able to create two different views, namely *single view* and *list view* of the records. The views can also include the name of the user who added the record, which means that it is possible to assess contributions by learners. The database tool can be used to create a database of words used in a piece of literature. The learners can be asked to identify the part of speech, supply a synonym and/or antonym or use it in a sentence.

Comments can be added to data entries, which can then be used as feedback to help learners improve. The database can also be set up so that a new entry first needs to get 'approval' from the teacher before it is added to the database. In other words, when a new entry is made, it is hidden from other learners until the teacher has approved the entry (Database Activity Module, 2010).



## Chapter 4: Evaluation Research

Dabbagh & Bannan-Ritland (2005:330) propose the Integrative Learning Design Framework (ILDF) for online learning.

This framework is a constructivist and inquiry-based approach to the design of online learning consisting of three phases: exploration, enactment, and evaluation. This model attempts to adhere to a systematic view of instructional design but also poses a more dynamic, flexible process that depends heavily on the online developer's knowledge base as well as the social and cultural context in which the online development occurs. (Dabbagh & Bannan-Ritland, 2005:330)

Many online instructors serve as the designer and developer and need to determine what is to be learned, implement effective instructional strategies capitalizing on available technological features, and evaluate the effectiveness of the online instruction or training. Knowledge of pedagogical models, delivery methods, and competencies needed by instructors and learners, as well as an awareness of research outcomes and effective instructional strategies are important to consider during the design and development of online learning. (Dabbagh & Bannan-Ritland, 2005:110)

The ILDF for Online Learning encourages the use of formative evaluation methods to evaluate online programs. (Dabbagh & Bannan-Ritland, 2005:257)

Chou made use of formative evaluation methods to evaluate an online course – a synchronous computer-mediated communication (CMC) system. The purpose of this research was:

- a) to examine the characteristics of different synchronous CMC systems;
- b) identify the features of the synchronous CMC tools that are conducive to online interactions;
- c) understand how novice learners adapt to synchronous CMC system; and
- d) investigate the features that would be central to the design of synchronous learning systems. (Chou, 2001:173)

Dabbagh & Bannan-Ritland (2005:257) declare that it is important to evaluate the design and development of an online course prior to launching it. One of the methods of evaluation that is mentioned by Dabbagh & Bannan-Ritland (2005:258) is that of instructor self-evaluation or reflection.

According to Chambliss & Schutt (2010:279), "evaluation research is not a method of data collection, like survey research or experiments; nor is it a unique component of research designs,

like sampling or measurement. Instead, evaluation research is conducted for a distinctive purpose: to investigate social programs." A training program is one of the examples of social programs cited by Chambliss & Schutt (2010:279). Learning Management Systems are used to facilitate e-learning or blended learning. Their interactive capabilities, and social tools for example blogs, wikis and forums, contribute to social networking, which create a virtual classroom in which learning can take place, thereby qualifying it as a training program or as it is called in this study, a learning program.

Babbie & Mouton (2001:335) also emphasize the fact that evaluation research "is a domain of social science research" and that it is used to assess or evaluate social intervention programs. This learning program can be regarded as an intervention program, because it is put in place to try and alleviate current issues experienced by Grade 12 learners, therefore acting as an intervention.

The learning program designed for the purpose of this study was evaluated as follows: a number of Moodle's tools were assessed according to the definition of what good feedback is as given in Chapter Two of this study. The design of the online course was also evaluated according to the principles of good design as explained in the same chapter.

Royse, et al. mention that "Formative Evaluations are employed to adjust and enhance interventions. They are not used to prove whether a program is worth the funding it receives but serve more to guide and direct programs – particularly new programs." (Royse, et al., 2006:117) Creating online learning material for Grade 12 learners which can be used by all learners from different schools is a relatively new concept in South Africa. It is necessary to evaluate the design of these programs to adjust and enhance them where necessary.

Singleton & Straits (2010:468) identify five evaluation activities:

1. Conceptualization and diagnosis
2. Needs assessment
3. Formative Evaluation
4. Program monitoring
5. Effect and efficiency assessment

The conceptualization and diagnosis, and needs assessment will be briefly discussed, to give some background on why the study was undertaken. This study however concentrates on the formative evaluation of the new program that should serve as an intervention program.

## **4.1 Conceptualization and Diagnosis**

Singleton & Straits (2010:469) state that "problems are not revealed directly by statistical patterns and trends. Rather, problem identification depends on how data are interpreted and whether the interpretation becomes a matter of public concern, which depends upon the values and influence of various parties, especially political elites."

A number of government officials made comments about poor teaching circumstances in South African schools as mentioned in Chapter 1 of this study. The poor pass rate is, therefore, a matter of public concern and has a huge impact on society. A number of reasons exist that contribute to the low pass rate and a few of these reasons are given below.

It often happens, especially in rural schools that teachers are asked to teach a subject that they are not qualified to teach. Schools in rural areas find it difficult to get hold of trained teachers, and they sometimes simply have to appoint an under-qualified teacher, because nobody else is available.

There are many factors that can contribute to the decline in the motivation of teachers, one of them being disruptive classes that make teaching impossible. If the school does not have a proper disciplinary system on which a teacher can rely, then this will lead to the teacher becoming unmotivated. It has become almost impossible to expel pupils from school, and the process usually takes months. Meanwhile the teacher has to continue to endure the presence of these disruptive elements in the classroom.

The various Departments of Education in South Africa have done a lot to supply teachers and learners with textbooks. A lot is done to build schools and to supply stationery, desks and chairs, and other necessary resources. However, it seems that this is not enough as, in spite of all this, the Grade 12 pass rate remains a matter of grave concern.

## **4.2 Needs Assessment**

Singleton & Straits identify several different kinds of appraisals.

It may be undertaken to identify and forecast problems that need attention, to establish perceived priorities among problem areas in communities and organizations, to study the scope of a problem, and to estimate the extent to which a program will be used or otherwise address appropriate needs. (Singleton & Straits, 2010:470ff)

One would assume that many Grade 12 learners really want to learn. Unfortunately, they are often in classes where it is impossible for them to learn. Either the teacher does not teach them properly, or there are pupils in the class who make it impossible for them to learn. It is easy to say that these pupils should stand up for their rights, but this is not always possible, because they are often

intimidated. It is not the learners' responsibility to ensure that their environment is conducive to learning. It is the responsibility of the government, the Department of Education and the school to provide these pupils with an environment that promotes learning.

However, as these problems continue to exist in classrooms, one has to ask what another type of learning environment should look like and what a Grade 12 learner needs to prepare adequately for the final examination.

**The following needs for Grade 12 learners were identified:**

1. They need learning material, which will provide some form of explanation or pointers to help them to prepare for the Grade 12 Final Examination.
2. This learning material should cover all the prescribed work for the Grade 12 Final Examination, and should be designed in such a way that they can use it without the aid of a teacher.

### **4.3 Formative Evaluation**

Formative evaluation is much like experimental pretesting. Experimental pretests provide feedback on how well the components of the experiment – the cover story, randomization process, manipulation, and so forth – are working. Formative studies provide feedback on specific program components to determine whether they are consistent with program objectives. (Singleton & Straits, 2010:470ff)

Using a Learning Management System to provide learning activities to Grade 12 learners is a relatively new concept in South Africa. Therefore, this study concentrates on experimental pretesting.

Evaluation research is a matter of finding out whether something is there or not there, whether something happened or didn't happen. To conduct evaluation research, we must be able to operationalize, observe, and recognize the presence or absence of what is under study. (Babbie, 2004:344)

The 'something' that Babbie refers to in this study is the goals of the program. The goals are derived from the needs assessment as described in the previous section.

Chen (2005:3) defines program evaluation "as the application of evaluation approaches, techniques, and knowledge to systematically assess and improve the planning, implementation, and effectiveness of programs." This evaluation is done at the start of the implementation of the program so that it can determine the effectiveness at an early stage, before it is rolled out on a large scale. Chen (2005:4) gives the following components of any intervention program: input, transformation, feedback and environment.

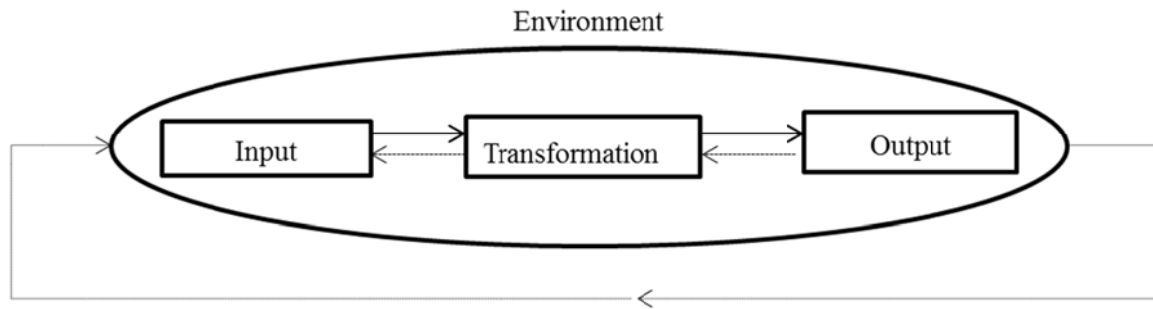


Figure 4.1 A System View of a Program (Chen, 2005:4)

#### 4.3.1 Inputs

"Among the components of an intervention program are 'inputs' from the environment. Inputs are resources taken in from the environment. These can include finances, technology, equipment, facilities, personnel, and clients." (Chen, 2005:4) The input in this study is the learning activities, which form part of the learning program.

#### 4.3.2 Transformation

"The component called 'transformation' represents the processes by which a program converts inputs into outputs. Transformation also includes those sequential events necessary to achieve desirable outputs." (Chen, 2005:5) The processes will therefore be the interaction of the learners with the different exercises that were created with the various tools provided by the LMS.

#### 4.3.3 Outputs

"Outputs are the results of transformation. One crucial output is attainment of the program's goals, which alone justifies the existence of the program." (Chen, 2005:5) The output of using the LMS will therefore determine if the goals of the program was met.

**I propose the following goals to address the needs that are identified under Needs Assessment.**

1. The learning material should consist of learning activities, which provide meaningful feedback.
2. This learning material should provide them with the prescribed content that they need to know to pass the Grade 12 Final Examination and should be designed in such a way that it provides a substantial learning experience.

The tools of the Learning Management System will therefore be evaluated according to the (a) Quantity and timing of feedback; (b) Quality of feedback and (c) Student response to feedback.

The design of the program will be described according to the given learning events and the constructivist activities as used in the program.

Babbie (2004:345) also emphasizes the importance of being able to measure the outcome, or what he calls the 'response variable'. He further says that if a social program is intended to accomplish something, we must be able to measure that something. That 'something' would be the above goals and this study attempts to determine whether the program that was put in place to serve as an intervention program to be used by Grade 12 learners, meets the above goals.

#### 4.3.4 Environment

The 'environment' refers to any factors that, despite lying outside a program's boundaries, can nevertheless foster or constrain that program's implementation. Such environmental factors may include social norms, political structures, the economy, funding agencies, interest groups, and concerned citizens. (Chen, 2005:5)

The 'environment' is the Learning Management System. The study evaluates to what extent the LMS can achieve the goals as outlined above.

#### 4.3.5 Feedback

To succeed – to correct any problems or adjust course effectively – an open system requires information about inputs and outputs, transformation, and the environment's responses to these components. This information is called 'feedback'. (Chen, 2005:5) Feedback is derived from the user's interaction with the system to determine to what extent the goals are met.

A system view of this particular program that this study evaluates therefore looks like this:

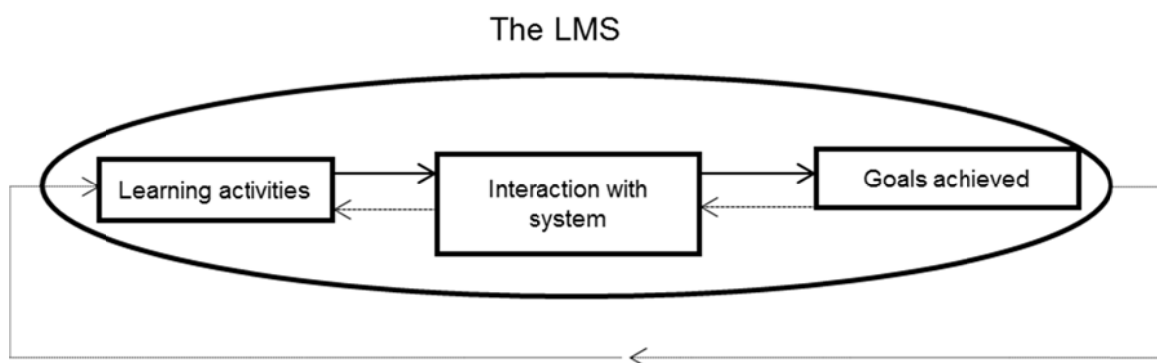


Figure 4.2 A System View of the Learning Program adapted from the system view as proposed by (Chen, 2005:4)

#### **4.4 Data Collection Methods**

This evaluative research is mainly a pre-test to determine the effectiveness of the LMS that might result in more in depth and wider evaluations that will lead to more quantitative studies. Chen (2005:136) also defines four types of evaluation methods: on-site observation and checking, focus group meeting, intensive interview, and systematic scanning.

His first method, on-site observation and checking also entails that evaluators themselves participate in the program in order to identify application difficulties. To achieve this, two fictional users were created on the LMS: Honeybee Buzz and Sizwe Majozi, who interacted and completed the learning activities. This is an attempt to determine how a learner will interact with the learning activities. Instead of only observing, I actively participated.

The learning program was made available on the internet and I advertised it to a number of schools. The aim of this was to run a pilot as part of the early evaluation to determine how learners will use the system. Currently, there are 126 enrolled participants, of whom approximately 40 are Grade 12 learners. I also observed their online behaviour to determine the outcomes of the study. The study does not look at the success rate of the learners who enrolled for the course, but concentrates on how they interacted with the different activities.

The primary aim of this study is to describe how the tools of the LMS meet the above goals. Babbie & Mouton (2001:272) describe it as follows: The description "is usually a lengthy description that captures the sense of actions as they occur. It places events in contexts that are understandable to the actors themselves."

This study is, therefore, a formative evaluation in that pre-tests are conducted to determine in which way the LMS can achieve the above goals. A brief description of the Conceptualization and Needs Analysis was given as background on why this study was undertaken.

This study will not look at program monitoring, since that will entail a long-term study and before program monitoring can be done, it is necessary to do a formative evaluation of the program to determine if it can meet the above goals, before it can be rolled out on a larger scale.

## Chapter 5: Results of the Evaluation of the Tools

This chapter looks at the first goal, which is that the learning material should consist of learning activities, which provide meaningful feedback so that they can prepare themselves thoroughly for the Grade 12 Final Examination.

To determine if this goal is met, the feedback provided by each tool is compared with Gibbs's description for good feedback as found in *Innovative assessment in higher education* by Bryan et al. (2006:51) which was discussed in Chapter 2.

Each tool is evaluated to determine to what extent they meet the criteria of what is considered meaningful feedback.

### 5.1 The quizzes

The quizzes can either provide feedback as part of the quiz or directly afterwards. If adaptive mode is used then the feedback is part of the quiz. The learner gets the feedback while still busy with the quiz. This type of feedback can only be used if the questions can be marked by the system. Question types that can be used include multiple choice questions, multiple response questions, true or false questions and short answer questions. For an example of a quiz that makes use of adaptive mode, look at the three quizzes under the section 'Get to know the Play' which forms part of the *Nothing But The Truth* Course.

If adaptive mode is not used, the learner gets the feedback directly after having completed the quiz. For an example of such a quiz, see the quiz 'Prepare-for-the-exams' quiz that also forms part of the *Nothing But The Truth* course.

Even when the learner completes the quiz that contains the open-ended questions, he or she will receive feedback in the form of recommended 'model' answers directly after having completed the quiz. The feedback, therefore, is still immediate and still sufficient. For an example of a quiz, that contains open-ended questions visit the *Nothing But The Truth* course, the Contextual Question – Exemplar 2009 quiz.

The feedback in quizzes can be on separate questions and on the quiz as a whole. The feedback on the quizzes can merely indicate if the answer is right or wrong. The designer can also provide feedback that is more detailed by giving reasons for example why a certain answer is wrong.

Therefore, the quantity and timing of the feedback provided by the quiz tool are both often enough, in enough detail and immediately to make it useful to learners.



The use of the quizzes as formative assessment focuses on learning and not on the marks. A learner can repeat the quizzes until he/she is satisfied that he/she knows the work. The mark given on a quiz is only an indication of how well a learner knows the work. Because feedback is part of the quiz, it is linked to the purpose of the assignment.

The following screen print shows an example of how an actual learner made use of the system. The learner attempted the quiz three times. The learner was able to improve his marks every time he completed the quiz.


<input type="checkbox"/>		jason jonker	12 May 2010, 01:44 PM	12 May 2010, 02:01 PM	17 mins 24 secs	28.2	1/1	1/1	1/1	0.9/1	1/1	0.9/1	3/3	0.7/1	0/2	:
<input type="checkbox"/>			14 May 2010, 10:37 AM	14 May 2010, 10:44 AM	6 mins 6 secs	30.7	1/1	1/1	1/1	0.9/1	1/1	0.9/1	3/3	0.9/1	2/2	:
<input type="checkbox"/>			14 May 2010, 10:44 AM	14 May 2010, 10:48 AM	4 mins 7 secs	32	1/1	1/1	1/1	1/1	1/1	1/1	3/3	1/1	2/2	:

Figure 5.1 Example of the marks gained by a specific learner by completing one quiz three times.

It is therefore possible to create feedback in the quizzes that focuses on learning, that is linked to the purpose of the assignment and that is understandable.

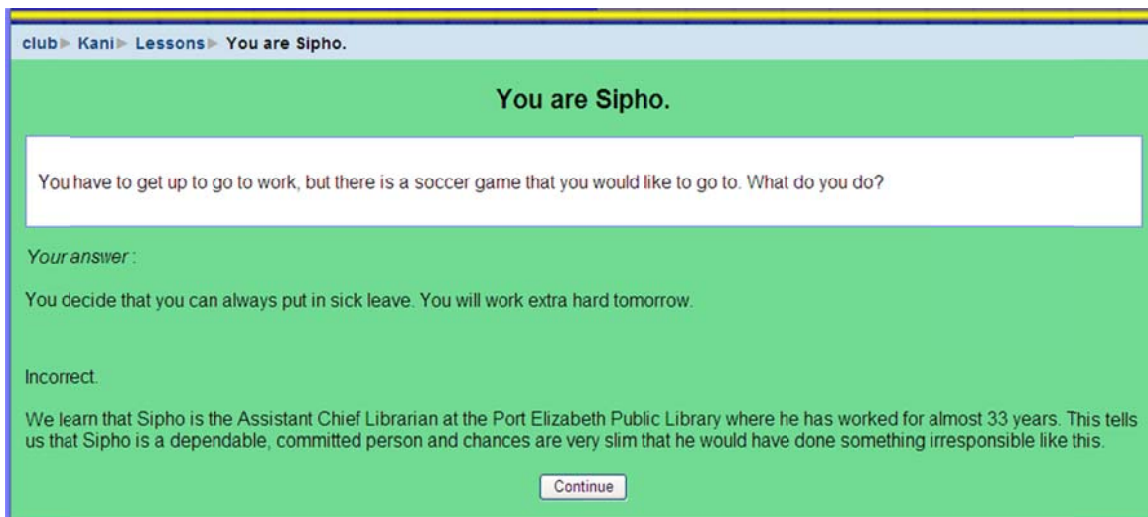
If a quiz uses Adaptive Mode, the learner gets the feedback while still busy with the quiz. This forces the learner to engage with the feedback. This means that the learner receives it and attends to it. In the example shown in the screen print it seems that the learner acted on the feedback. He completed the quiz three times, each time improving on the previous attempt.

The quiz that contains the open-ended questions that are not marked by the system also prompts the learner to engage with the feedback. If a learner wants to know how well he/she knows the work, he/she has to engage with the feedback and mark the quiz.

Moodle's quiz tool, therefore meets all the requirements of meaningful feedback. It can provide quick and good quality feedback that prompts a learner in a number of ways to engage with the feedback.

## 5.2 The Lessons

The lessons also provide feedback while the learner works through the lesson. The lessons contain only two options. If a learner selects the wrong option, the feedback contains the reason why the option is wrong, as can be seen from the next example.



*Figure 5.2 Example of feedback given in a Lesson as used in the 'Nothing But The Truth' course*

The learner can then continue to the next question. The feedback is again provided quickly enough to make it useful to the learner and it is detailed enough so that a learner will learn why his/her choice is wrong.

When creating the lesson, it is possible for the designer to add detailed and quality feedback, which will make the feedback informative and explains why the option chosen is wrong. This will enable the learner to learn from his/ her mistake. The feedback is given as part of the lesson and thus linked to the purpose of the assignment.

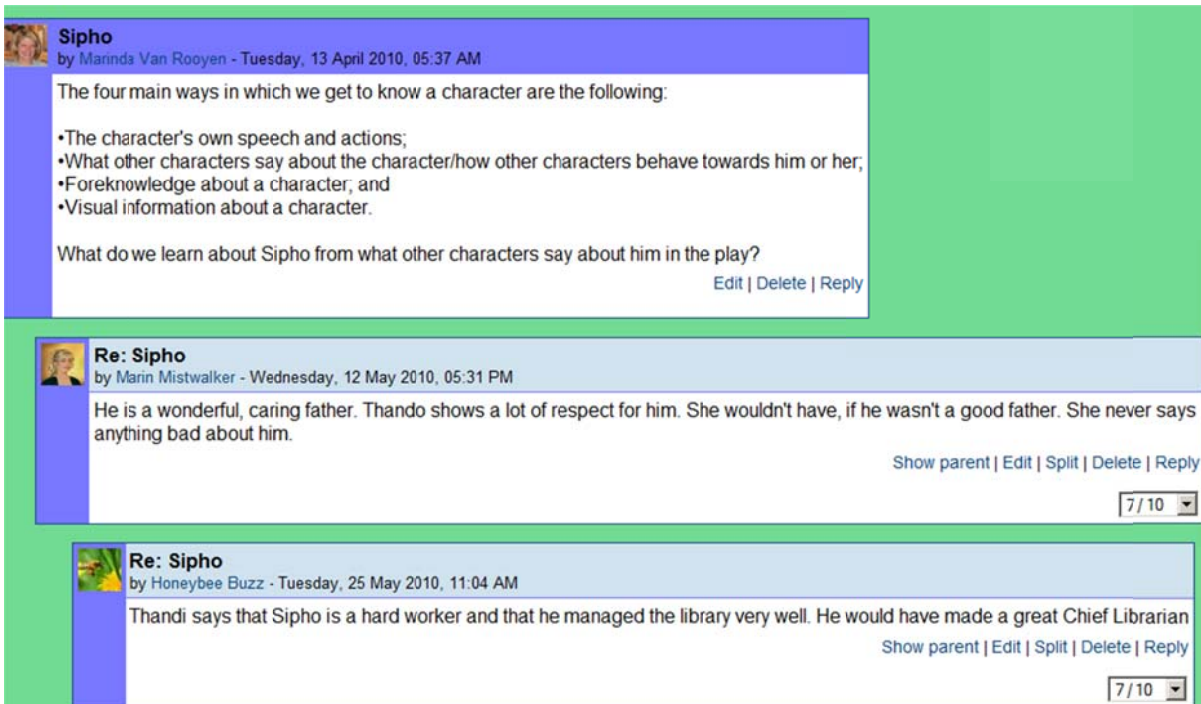
Because the feedback is part of the lesson, the student has to engage with it. The learner again has the option of completing the lesson more than once until a satisfactory mark is achieved.

### **5.3 The Forum tool**

The forum tool is one of the examples of social constructivist exercises that were added to the courses. This is to promote dialogue between learners so that they can critically think about what they are learning. (Powell & Cody, 2009:245) The learners come from different backgrounds and can bring a diversity of knowledge to the discussions.

The quantity and timing of feedback that form part of the social tools, like the forum, blog and wiki tool, will depend on when other users give the feedback. If the feedback depends on other learners, then it will depend on the number of learners who are active users of the system. If there are a number of active users, then this feedback will be prompt enough to be useful, and will consist of a wide variety of comments.

The forum tool lends itself to shorter discussions and can take the form of asynchronous conversations of a more informal nature.



*Figure 5.3 Example of a discussion used in the learning program*

It is possible to add ratings to the discussions, so that each participant can rate the entries of another participant, thereby giving another form of feedback.

If a teacher makes use of these tools as part of classroom activities, the teacher can control the quantity and timing of the feedback. Giving feedback can form part of an exercise. For example, a teacher can give learners an exercise, which asks them to take part in a discussion. Part 2 of the exercise will be to comment on another learner's discussion entry, therefore giving feedback to another learner. The learner will then receive marks for the initial entry and the feedback given to the other learner.

The quality of the feedback will be determined by the number of participants taking part in the discussion.

It is not possible to determine if learners respond to the feedback. If a learner makes use of the online resource, then one can assume that he/she wants to learn and then would respond to the feedback. It is possible to edit blog and wiki entries, after which more comments can be made, and in this way learners visibly respond to feedback. If this is done as part of classroom activities, teachers can encourage learners as part of the exercise to respond to comments made by learners. Meaningful and useful feedback can be accomplished by using the forum tool. This feedback does depend on the number of users who contribute to the course, but positive feedback is possible.

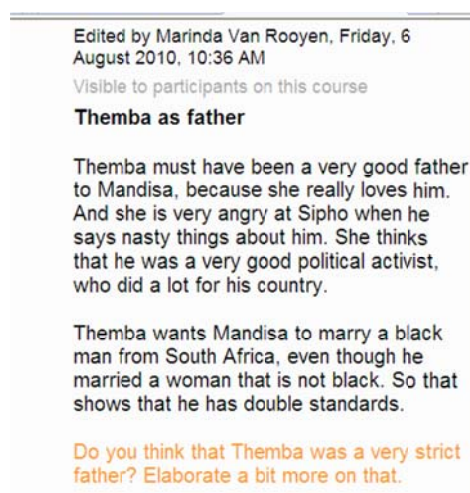
## 5.4 The Blog Tool

The blog tool does not promote interaction or discussions like the forum tool. A learner will write his/her own answer to a question in the form of a longer piece of writing. The feedback comes from other learners in the form of comments. The quantity and timing of this kind of feedback again depends on the number of users making use of the system.

I added the rubric for marking literature essays which was made available for download on the Department of Education's website (Examination Guidelines: Languages Paper 2 – January 2009, 2010). This will enable a learner to evaluate his/her own attempt. To make this a truly social constructivist exercise, however, it will be necessary for learners to add comments to other learners' blog entries.

The blog tool lends itself to longer entries, which are ideal to use for writing essays. Other participants can only make short comments on the blog entries. The fact that learners can see other learners' entries in, for example, the blog facility can also form part of the feedback. By viewing other learners' entries and comments made on these entries, learners can learn how other learners think and where they made their mistakes and they can learn from these mistakes. Because the entries and comments are from their peers, they should be comprehensible, given the fact that they form part of the same peer group.

If this resource is used as part of classroom activities, a teacher can also edit the blog entries in another colour, thereby making the feedback more specific.



*Figure 5.4 Example of feedback given by a teacher in a blog activity*

As with the forums, it is not possible to determine if learners respond to feedback, but again, if a learner makes use of the online resource, then one can assume that he/she wants to learn and then would respond to the feedback.

## 5.5 The wiki tool

The wiki tool can only be successful if it is used as part of a group activity. The aim of a wiki is to create a document as part of a group exercise. A number of participants complete different sections of one document, thereby completing a group activity. Collaboration among group members is very important. Unlike the blog or forum tool, participants in a wiki activity can delete or edit other members' entries. This means that group members have to know and trust one another. Using a wiki exercise in an online environment like the learning program that I created as part of this study, is therefore a really difficult activity to make successful. It can only happen if the learners have made use of the other activities and got to know one another and give mutual consent to work together on a project like completing a wiki. For an example of a wiki activity, visit the *Nothing But The Truth* course, section five.

Feedback will therefore not come afterwards, but will be part of the creation and editing process. This is an ideal form of peer assessment. If this activity is part of a classroom activity, a teacher can mark the whole group's contribution afterwards. The quality of the feedback will depend on the contributions each member makes to the wiki. Technically, learners can edit and 'improve' on entries made by other members, again hopefully with the other members' consent. Learners can respond to other learners' entries and editing by either accepting them or deleting them. All contributions made by members of a wiki are recorded. If a member misbehaves, such a member can be blocked from making entries to the wiki.

## 5.6 The glossary tool

The glossary tool is also a group activity that allows members of the course to add entries. Feedback can be given in the form of comments as with the blog activity.

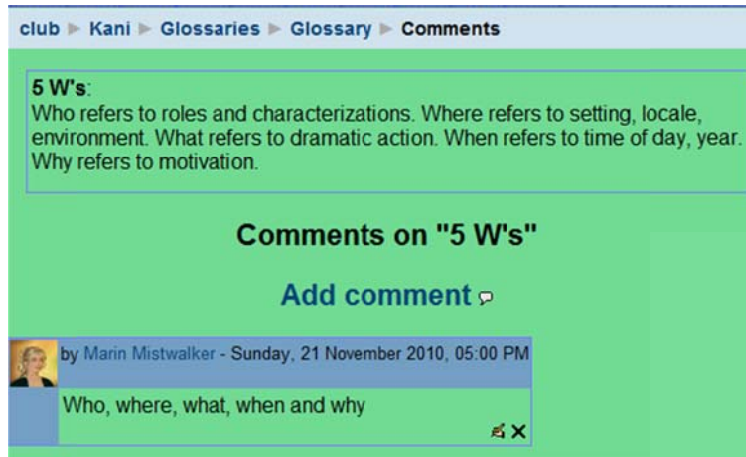


Figure 5.5 Example of comment made as part of glossary activity

Learners can also add ratings to a glossary entry.

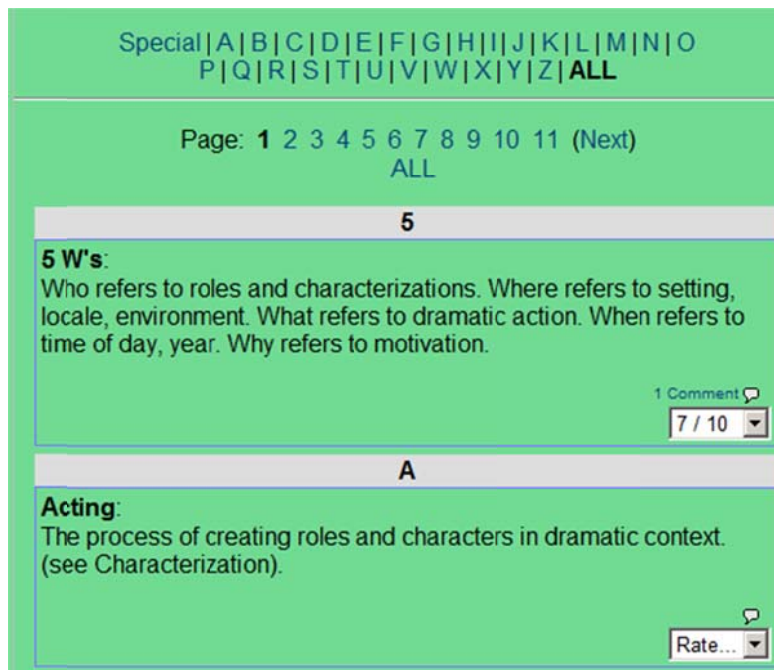


Figure 5.6 Example of glossary entries

As with all the other social activities, the timing and quantity of feedback depends on the number of members actively taking part. Quality feedback is possible, but will depend on the members who participate in the course. Learners can act on the comments made and the ratings added and improve on an entry.



## 5.7 The database tool

The database tool resembles the wiki tool. It also encourages group work. It does not allow for feedback by other learners. Only participants with teacher's access can edit entries made by learners. It is a group activity in the sense that members create a collaborative database, which can be viewed by all members of the course. The quality of this activity will again depend on the quality of the entries made by die group members.

## 5.8 Conclusion

To form an online community where learners feel safe to express their opinions, is difficult, since online learning is a relatively new concept. Learners first have to get used to the idea, and trust should be built before social learning can become effective. The discussion tools were viewed by a number of the learners, but none of them posted any comments.

Nonnecke, Andrews and Preece did research on users' online participation. Their study differentiated between lurkers and posters. Lurkers are people who view posts, but never add anything themselves. They examined the nature of lurking, why people lurk and the differences in attitudes between lurkers and posters. They found that there are a number of reasons why people do not participate and that the reasons differ according to the type of community involved. (Nonnecke, Andrews, & Preece, 2006:7) They concluded that:

When people lurk they are observing, which in no way is negative behaviour. However, this introverted or passive behaviour affects lurkers' attitudes about the benefits of the community, their expectations, and opinions of themselves and others who lurk. In general lurkers are less optimistic and less positive than those who post. (Nonnecke, Andrews, & Preece, 2006:7)

The challenge will therefore be to make learners see the benefits of taking part in such an online community, to make them see that any learner can make a positive contribution.

The feedback given by the quizzes is direct and delivered by the LMS. If adaptive mode is used then the feedback is part of the quiz. The learner gets the feedback while still busy with the quiz. If adaptive mode is not used, the learner gets the feedback directly after having completed the quiz. Feedback can also be provided on quizzes containing open-ended questions, in the form of recommended/model answers. After having completed a quiz, the learner can theoretically engage with the feedback.

When completing a lesson, the learner's actions are also determined by the feedback he/she receives. If an answer is correct, the learner can advance to a next question. If an answer is wrong,

the learner is presented with the feedback and given the reason why it is wrong. He/she can then either answer again, or continue to the next question.

The feedback that forms part of the social tools, like the forum, blog and wiki tool, depends on when other participants give this feedback.

Goal 1 is, therefore, met to some extent, but does rely on a number of factors, which are not part of the Learning Management System. Good feedback can be ensured by the quizzes and the lessons. The communication tools (blogs, wikis and forum) however will probably work best if a knowledgeable person, like a teacher, oversees the activities.

My conclusion is therefore that each of the tools used directly or indirectly provides some form of feedback and that the overall feedback given in the course is sufficient to provide for a meaningful learning experience.

The next chapter evaluates goal 2 in terms of the adequacy of the content and the design of the learning program.



# Chapter 6: Evaluation of the design of the Learning Program

This part of the study evaluates the design of the Learning Program to establish if it meets the requirements of the second goal in terms of providing a meaningful learning experience. The design is based on the instructional characteristics of a constructivist-based model and examples of such activities will be given.

Because learning could be done by means of either computers or cellular phones, the design of the activities was done in such a way that most of the activities could be done from both a computer and cellular phone. The learning activities as rendered from a computer or cellular phone are not contrasted in any way. The extent to which they meet goal two is simply discussed for both cases.

It is also very important to note that in the design of the learning program, I tried to keep the delivery content as light as possible. Adding pictures and videos would have made the courses bandwidth heavy, which means that it would cost the learners more to engage with the content. Because I focus on learners who come from lower income backgrounds, I tried to keep the courses as cost effective as possible.

## 6.1 A constructivist-based pedagogical model

Examples of how the 13 instructional strategies, as proposed by Baddagh & Bannan-Ritland (2005:206), which embody the instructional characteristics and implications of constructivist-based pedagogical models are now given as they are used in the learning program.

### 6.1.1 Promote authentic learning activities

Examples of activities which promote real-life problem solving, and which involve the learners' beliefs and values are the discussions on the short stories. Learners are presented with a real-life situation, which links to what happens in the story. The learner should then share his/her values as part of the discussion. Visit the *Nothing But Truth* course, *Discuss the play* for an example of such a discussion.

### 6.1.2 Promote problem solving.

Examples of activities which promotes learners' ability to think critically about information and to find and sort information is the database activity are found in the short story course. The learner is given the ability to find and sort words found in the short stories. These words should be explored to find the meaning, and sorted into a specific category. The learner then helps to build an online database or repository, which is placed at the disposal of all other learners. It

becomes a collaborative exercise, which allows learners to build a database of knowledge that can be used by anyone. Visit the Short Stories course, *Section 1: Vocabulary* section for an example of such a database.

### **6.1.3 Promote collaboration and social negotiation.**

Both courses consist of several activities that promote collaboration and social negotiation. Examples of these are the various discussions, the glossary and database activities, the blogs and the wikis. Visit the Short Stories course, *Glossary of Terms* for an example of a glossary used.

### **6.1.4 Promote exploration.**

An example of an activity that promotes exploration is the web page on history in the *Nothing But The Truth* course. Learners can read the web page that provides the summary, but the links to the original text is also provided, should they want to learn more about them. Visit the *Nothing But The Truth* course, *Section 1: Historical Facts* to see what it looks like.

### **6.1.5 Promote hypothesis generation**

An activity that promotes hypothesis generation is the *Everybody has a story* activity. (see the Short Stories course). Learners are asked to read web sites, which contain tips on good short story writing and then to develop their own theories on what good story writing demands.

### **6.1.6 Promote role-playing activities**

An example of an activity that promotes role-playing is the Lesson activity on each of the characters. The learner is presented with situations, which the character would face, and then based on what the learner knows about the character, should make the decision that the character would have made. Visit the *Nothing But The Truth* course, *Section 3: Character Analysis* for an example of such an activity.

### **6.1.7 Promote articulation.**

All the discussions, blog and wiki activities give learners the opportunity to articulate their knowledge and understanding of the work. The open-ended quizzes that are added also give the learners the opportunity to show how much they know about the work. The fact that they can peer review other learners' attempts can again give them the opportunity to engage with other learners' perspectives. By adding comments of their own, they can again compare and give their own understanding of the learner's attempt. Visit the *Nothing But The Truth* course, *Section 4: Contextual Question – Exemplar 2009* to view the activity.

### **6.1.8 Promote reflection**

Any blog activity makes it possible for a learner to reflect on current knowledge. An example of an activity, which makes use of the blog tool is the essay question that learners have to complete on Themba. This gives them the opportunity to reflect on their current knowledge. Refer to the *Nothing But The Truth* course, *Section 4: Essay Question – Themba* to view the activity.

### **6.1.9 Promote multiple perspectives**

The fact the learners can see other learners' blog entries, and discussion entries, provide them with multiple perspectives. Visit the *Nothing But The Truth* course or the *Short Stories* course for examples.

### **6.1.10 Promote modeling and explaining**

Instructions and explanations are given in the form of web pages, which learners can read. Explanations are also given in the form of feedback as part of the quizzes and lessons. Several web pages were created as part of the course. For an example, visit both courses to view the web pages created.

### **6.1.11 Promote coaching**

I observed learner behaviour and was always available to monitor and give guidance when necessary.

### **6.1.12 Promote scaffolding**

An example of an activity that promotes scaffolding is the crossword puzzle. Learners can make use of the *hint* function to supply hints if they do not know the answer. If they know the answer, they do not need to use the *hint* function. Visit the *Nothing But The Truth* course, *Section 1: History* to view the crossword activity.

### **6.1.13 Promote self-directed learning.**

The design of the courses is done in such a way that a learner can direct his/her own learning. None of the activities relies on the completion of other activities. All activities can be done in any sequence, which gives the learner the option of directing his/her learning process. The learner brings his/her own framework to the learning program, and engages in the activities from that perspective. He/she will therefore choose activities that links with his/her current framework, thereby building and expanding on the framework.

## 6.2 The course structure

To ensure that goal two is met, it was necessary to ensure that there is a specific lesson structure. This would enable a properly structured learning experience. The design of the lesson plans is based on the design given by Gilbert & Gale (2008:194ff) as outlined in 2.3.

Two courses were created as part of the evaluation. The first one covers the Short Stories prescribed for Grade 12 English Additional Language and the second course is on the play *Nothing But The Truth* by John Kani, which is one of the prescribed plays.

The 11 events and how they are integrated in the two courses are discussed below:

### 6.2.1 Gain attention

This first part should gain the learner's attention. It should serve as encouragement to continue with the lesson.

#### *Nothing But The Truth*

For this course I make use of the forum tool. Learners can take part in the discussions, which will include general discussions relating to the theme of the text.

For example, the first discussion is about 'parental consent'. In the play the characters, Thandi and Mandisa have different opinions regarding parental consent. The course starts with a discussion on the participant's views on this. Does he/she agree with Mandisa or with Thandi?



Figure 6.1 Example of forum entries in the *Nothing But The Truth* course

### Short Stories

In the Short Stories course use was made of the *OU blog* tool. A learner is required to visit three websites which give tips on how to write a good short story. The learner should then summarise what he/she thinks constitute the five most important tips. The learner is then encouraged to write his/her own short story. The exercise is intended to give learners some background on how

short stories are written. Some learners like to write stories, but most do not. To gain a learner's attention should not involve a long exercise like writing a short story, but if a learner wants to share a short story that he/she has written, this will give him/her the opportunity to share it with others.

The exercise will therefore give learners background information on what to look for when reading a short story.

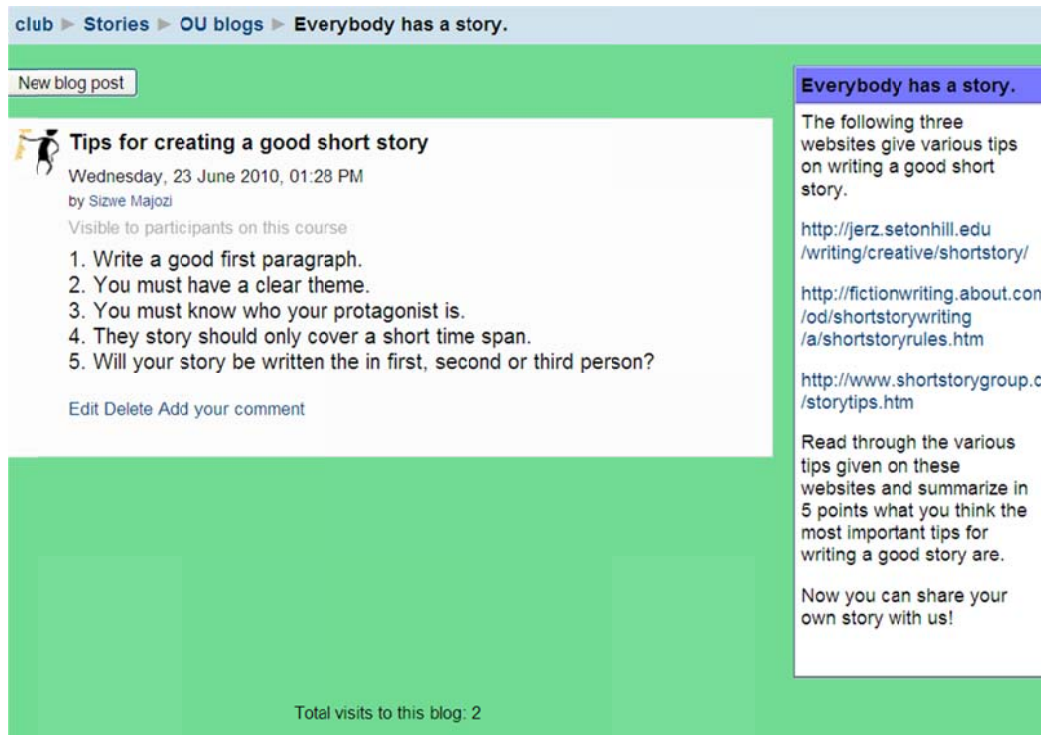


Figure 6.2 Example of OU Blog activity as used in Short Stories course.

## 6.2.2 Inform learner of objectives

The Revised National Curriculum Statement, Grades 10 – 12, (General) for English First Additional Language was used to determine the Learning Outcomes and Assessment Standards for the Literature Section prescribed for Grade 12 English First Additional Language. Even though all the Learning Outcomes are interlinked in some way, Learning Outcome 2 concentrates on the reading of literary texts.

Learning Outcome 2 describes the reading and viewing skills a learner should have acquired by the end of a phase. In particular, the following is important: "Learners should be able to recognise how genre and register reflect the purpose, audience, and context of texts. Learners should make meaning from texts, identify values and assumptions and respond critically" (RNCS, 2003:13).

The assessment standards determine what a learner should be able to do to meet the Learning Outcomes. All the relevant assessment standards were taken into consideration when the content of the courses was created. The following table is an example of how the assessment standards were broken down and used in the *Nothing But The Truth* course. It breaks down the activities and content that are available in the module and shows which assessment standards are addressed by each activity or resource.

A learner should be able to	
Find relevant information and detail in texts;	History summary Crossword puzzle/History quiz Get-to-know-the-play quizzes Prepare-for-the-exam quiz Contextual Question – Exemplar 2009
Distinguish between fact and opinion, and motivate own response;	Essay Question – Exemplar 2009 Wikis – characterization Lessons on characters
Explain the difference between direct and implied meaning	Lessons on characters
Explain the writer’s/narrator’s/character’s viewpoint and give supporting evidence from the text	Lessons on characters
Explain the socio-political and cultural background of texts	Historical facts summary and crossword puzzle/History quiz
Recognise and explain the effect of a wide range of figurative and rhetorical language	Get-to-know-the-play quizzes Prepare-for-the-exam quiz
And literary devices such as metaphor, simile, personification, metonymy, onomatopoeia symbol, puns, hyperbole, contrast, sarcasm, caricature, irony, satire, paradox, antithesis and anti-climax on the meaning of texts	Get-to-know-the-play quizzes Prepare-for-the-exam quiz
Give and motivate personal responses to texts with conviction	Discuss the play Wiki – Characterization Blog - Themba
Evaluate how language and images may reflect and shape values and attitudes in texts	
Explain socio-cultural and political values, attitudes and beliefs such as attitudes towards gender, class, age, power relations, human rights, inclusivity and environmental issues	Discussions Essay questions Lessons - characters
Recognise and explain the nature of bias, prejudice and discrimination	Discussions Blog - Themba
Drama and film study	
Interpret mood, time-line, ironic twists and ending	Get-to-know-the-play quizzes Prepare-for-the-exam quiz /long Contextual Question – Exemplar 2009
Recognise how dialogue and action are related to character and theme;	Lessons - characters
Describe plot, subplot, character portrayal, conflict and dramatic purpose	Glossary Lessons - characters

Table 2: Assessments Standards as supplied by the Revised National Curriculum Statement (2003:15ff)



The various assessment standards addressed in the course and the activities in which these standards are addressed are displayed as web pages in both courses. In this way the learner is informed of the learning objectives that should be met.

It is best to display all content as far as possible as web pages, because web pages can also be viewed from a cellular phone. If someone wants a copy of these activities on their own computer, it is possible to either copy and paste the content to any word processing document or to save the page as a html document to a computer.

The following assessment standards are addressed as follows in this module:

A learner should be able to	
Find relevant information and detail in texts;	History summary Crossword puzzle/History quiz Get-to-know-the-play quizzes Prepare-for-the-exam quiz Contextual Question – Exemplar 2009
Distinguish between fact and opinion, and motivate own response;	Essay Question – Exemplar 2009 Wikis – characterization Lessons on characters
Explain the difference between direct and implied meaning	Lessons on characters
Explain the writer's/narrator's/character's viewpoint and give supporting evidence from the text	Lessons on characters
Explain the socio-political and cultural background of texts	Historical facts summary and crossword puzzle/History quiz

Figure 6.3 Example of web page, containing Assessments Standards used in the "Nothing But The Truth" course

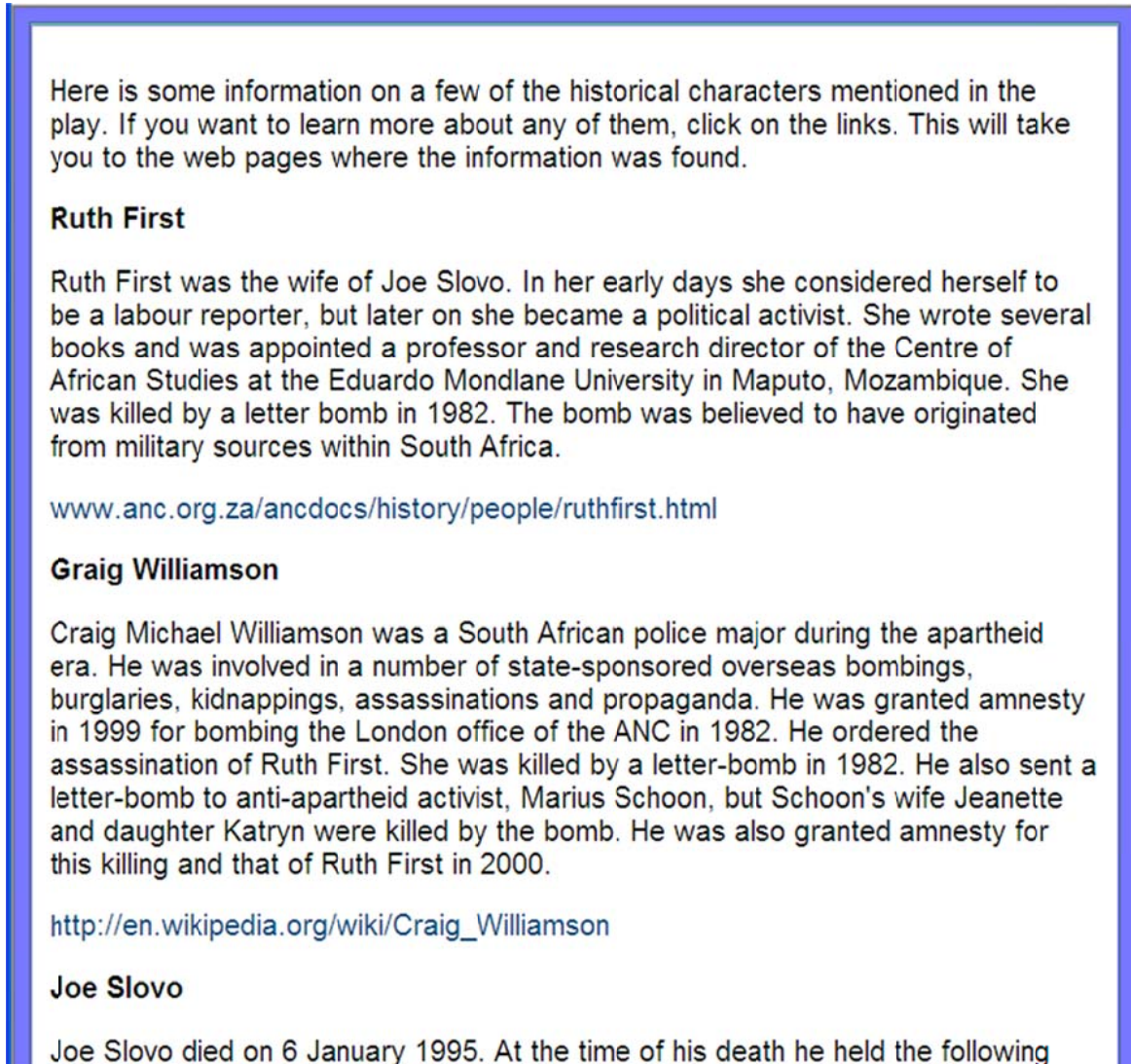
### 6.2.3 Stimulate recall of prior learning

This part should help the learner to recall prior learning. It could take the form of a pre-test, or a more informal interactive event, like a discussion.

#### *Nothing But The Truth*

In the *Nothing But The Truth* course, a crossword puzzle was created based on a web page that gives information on some of the historical facts mentioned in the play. The various web sites from which the information was taken are also included. If learners want to learn more about these historical events, they will be able to click on the links and visit these pages.

Here is a screen print of the web page:



Here is some information on a few of the historical characters mentioned in the play. If you want to learn more about any of them, click on the links. This will take you to the web pages where the information was found.

**Ruth First**

Ruth First was the wife of Joe Slovo. In her early days she considered herself to be a labour reporter, but later on she became a political activist. She wrote several books and was appointed a professor and research director of the Centre of African Studies at the Eduardo Mondlane University in Maputo, Mozambique. She was killed by a letter bomb in 1982. The bomb was believed to have originated from military sources within South Africa.

[www.anc.org.za/ancdocs/history/people/ruthfirst.html](http://www.anc.org.za/ancdocs/history/people/ruthfirst.html)

**Graig Williamson**

Craig Michael Williamson was a South African police major during the apartheid era. He was involved in a number of state-sponsored overseas bombings, burglaries, kidnappings, assassinations and propaganda. He was granted amnesty in 1999 for bombing the London office of the ANC in 1982. He ordered the assassination of Ruth First. She was killed by a letter-bomb in 1982. He also sent a letter-bomb to anti-apartheid activist, Marius Schoon, but Schoon's wife Jeanette and daughter Katryn were killed by the bomb. He was also granted amnesty for this killing and that of Ruth First in 2000.

[http://en.wikipedia.org/wiki/Craig\\_Williamson](http://en.wikipedia.org/wiki/Craig_Williamson)

**Joe Slovo**

Joe Slovo died on 6 January 1995. At the time of his death he held the following

*Figure 6.4 Example of web page*

The learners' historical knowledge is then tested with the crossword puzzle. The puzzle forms part of the formative assessment aspect of the learning event. It supplies hints if a learner does not know an answer. If the learner clicks on 'hint', it will give the first letter of the word, and then the next letter, and so on. Every time a learner asks for a hint, marks are deducted. The learner is able to redo the assessment, asking for fewer hints the next time, aiming to end the quiz with a higher score than the first time.



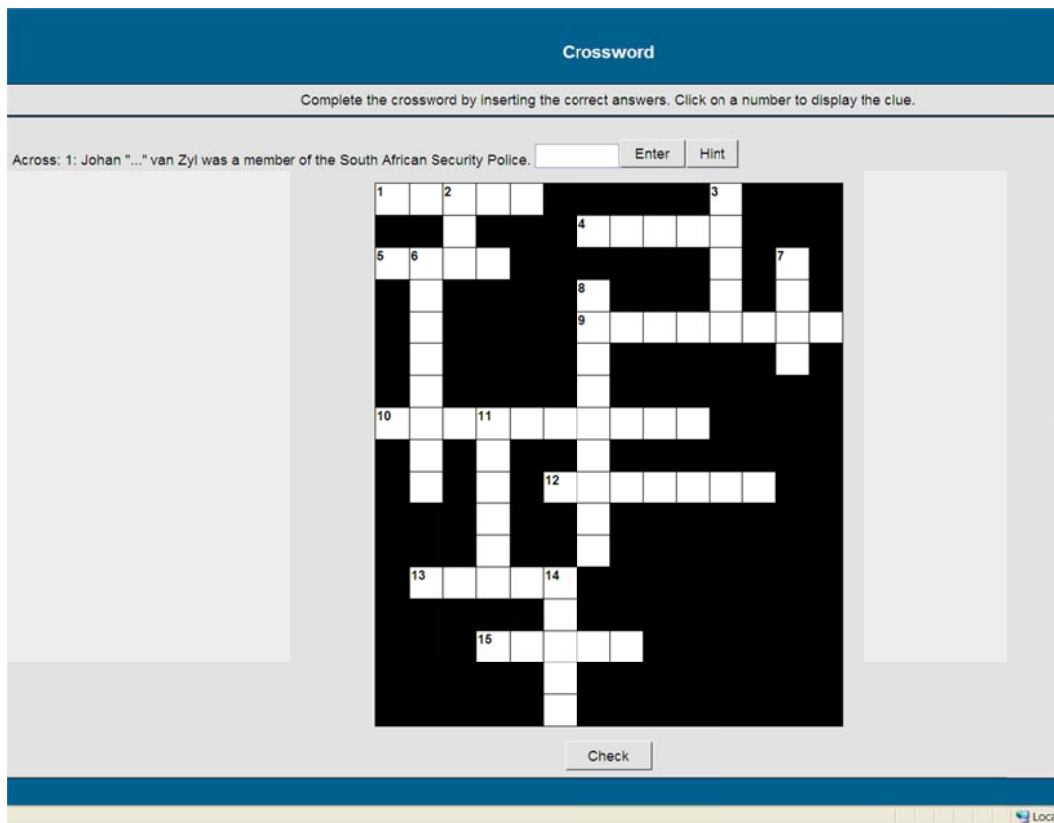


Figure 6.5 Screen image of crossword puzzle

A crossword puzzle is a fun activity that looks more like a game than a test. This is done to serve as an encouragement to learners to do the activity. The crossword puzzle was created with Hot Potatoes, which is an open source program that can be used to create online assessments.

It is possible to import Hot Potatoes quizzes into Moodle in two ways: First, one can import the quiz as a Hot Potatoes quiz. The quiz will then stay in its original format, in this case the crossword puzzle. One can also import a Hot Potatoes quiz as a Moodle quiz. If one imports a Hot Potatoes quiz that consists of multiple choice questions or matching questions, the Moodle quiz will still consist of the same type of questions. When one imports a Hot Potatoes crossword puzzle, the format of the questions will change to short answer questions.

It was necessary to create two assessments, because it is not possible to complete a crossword puzzle from a cellular phone. Therefore, two quizzes were created: one that can be completed on a computer and one that can be completed from a cellular phone. As can be seen from the following screen print, the learner using his or her cellular phone will only see the quiz that can be done from a cellular phone. Activities that cannot be completed from a cellular phone are not displayed on the cellular phone screen.

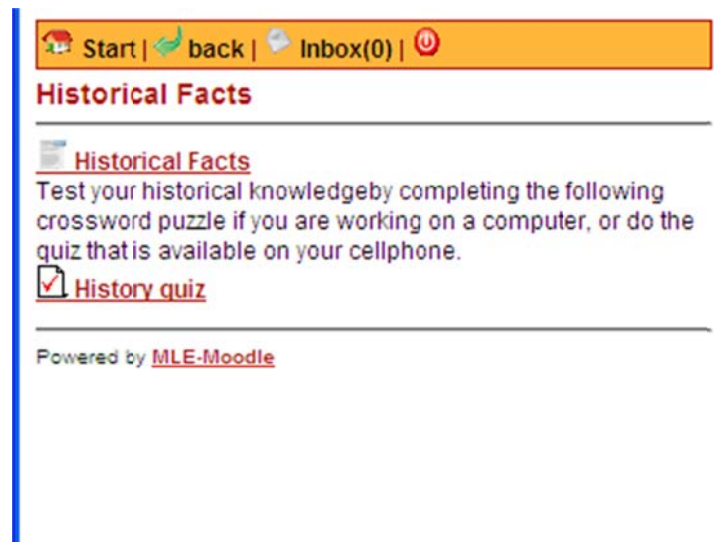


Figure 6.6 Example of screen looks like from a cellular phone, using MLE Moodle

This is what the quiz will look like from a cellular phone:

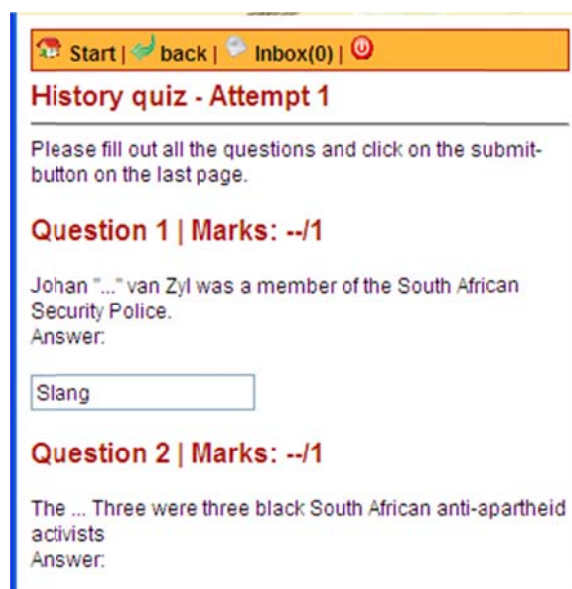


Figure 6.7 Example of how a quiz is displayed in a Moodle course, using MLE Moodle

The questions are in short answer format and the learner is able to complete the answer by typing in the correct word. Unfortunately, the learner cannot ask for hints or help. The feedback to the quiz is only shown after having completed the whole quiz. A learner is, however, able to complete the quiz again.









### Short Stories

In the short story course, the database activity tool is used to stimulate recall of prior learning. Before learners start with a short story, they should scan the story and add words that are used in the story to the database. They should identify the part of speech and supply a synonym and an antonym.

**Words**

Let's work together to complete a database of words

[View list](#)
[View single](#)
[Search](#)
[Add entry](#)
[Export](#)
[Templates](#)
[Fields](#)
[Presets](#)

Word	Part of Speech	Synonym	Antonym	User	Edit
skirmish	noun	battle	-	Marinda Van Rooyen	
fragments	noun	pieces	whole	Marinda Van Rooyen	
dispute	noun	disagreement	agreement	Marin Mistwalker	
retain	verb	keep, hold	let go	Marin Mistwalker	
humiliating	adverb	embarrassing	-	Honeybee Buzz	
intoxicated	adjective	drunk	sober	Honeybee Buzz	
brazen	adjective	bold	shy	Sizwe Majozi	
inaudable	adjective	soft	audable	Sizwe Majozi	

Entries per page  Search  Sort by    Advanced search

*Figure 6.8 Screen print of database activity*

The list view is used so that it includes the name of the user who added the entry. It is also possible for anyone to edit current entries. In this way, a learner can identify how much vocabulary used in the short stories he/she knows. By being able to view entries from other learners, a learner can also learn words that he/she does not know.

Unfortunately, it is only possible to view the records from a cellular phone. It is not possible to add any records.

#### **6.2.4 Assess prior learning**

This section determines whether a learner is capable of meeting the lesson objectives or intended learning outcomes. If the learner can pass this assessment, he/she can go directly to the end of the lesson to complete the final assessments. If not, the learner first has to complete the whole lesson, before continuing to the assessments. In other words, the more capable learners do not have to work through the whole lesson. They can use the assessments as study aid for the examinations. Learners, who do not pass the prior learning assessments, need the lessons to teach them what they do not know.

### *Nothing But The Truth*

The prior learning that is assessed in this course is what the learner knows about the play. At the very least, the learner should have read the play. He or she attempts the quizzes to see how much can be remembered about the content.

The quizzes consist of three formative assessment quizzes to assess how much the learner knows about the play. Adaptive mode of the quiz tool is used, which means that a learner gets a chance to submit an answer, and then if the answer is incorrect, gets immediate feedback and then has a chance to answer it again.

The learner makes a choice and clicks on submit.

The screenshot shows a quiz question interface with a green background. On the left, it displays '1' with a flag icon, 'Marks: --/1', and the instruction 'Choose one answer.' Below this is a 'Submit' button. The question text is '"Typical. Just like him. Always not there to take responsibility." Who is Siphso talking about?'. To the right of the question is a list of four options, each with a radio button: 'a. His brother', 'b. His father', 'c. His cousin', and 'd. His nephew'. Option 'b' is selected, indicated by a filled radio button.

*Figure 6.9 Example of how a multiple choice question is displayed*

Immediate feedback is given. In this case, the answer is incorrect.

This screenshot shows the same quiz question as Figure 6.9, but with feedback. The 'Marks' now show '0/1'. A red 'X' is placed to the right of the selected option 'b. His father'. Below the options, a red horizontal bar contains the text 'Incorrect' in white. Underneath the bar, it says 'Marks for this submission: 0/1. This submission attracted a penalty of 0.1.' The 'Submit' button is still visible.

*Figure 6.10 Example of feedback given when adaptive mode is used in a quiz*

A penalty is applied each time an answer is incorrect. In the example, the submission attracted a penalty of 0.1. A learner is able to redo the assessments until a score of 100 % is obtained, in other words, a wrong answer was never submitted. Then the learner knows that he/she really knows the play.

It is even possible for 'lazy' readers to learn most of the play by merely completing the quizzes. This practice is of course not encouraged, but it is possible.

## Short Stories

The prior learning that is assessed in the Short Stories course, is how much a learner knows about the short story. The learner should have read the short story and be able to answer the questions on each short story. The questions were created by Dennis G. Jerz (Short Stories, 10 Tips for Creative Writers, 2009) and are general questions relating about the protagonist, what his/her circumstances are and decisions he/she makes that leads to the climax of the story.

The quiz does not supply any form of feedback. This is a self-assessment exercise during which the learner has to determine if he/she knows the story. The learner should be able to determine by himself/herself if he/she is able to answer all the questions properly.

**Review of attempt 1**

[Finish review](#)

<b>Started on</b>	Wednesday, 23 June 2010, 03:02 PM
<b>Completed on</b>	Wednesday, 23 June 2010, 03:15 PM
<b>Time taken</b>	12 mins 31 secs
<b>Marks</b>	0/15
<b>Grade</b>	0 out of a maximum of 10 (0%)

Dennis G. Jerz( at <http://jerz.setonhill.edu/writing/creative/shortstory/>) gives a number of pointers when writing a short story.

See if you can answer the following questions on this short story.

**1** Who is the protagonist and what does he or she want?  
Marks: --/3  
Answer:

**2** When the story begins, what morally significant actions has he or she already taken towards that goal?  
Marks: --/3  
Answer:

Figure 6.11 Example of quiz containing open-ended questions, which does not provide feedback

### 6.2.5 Present materials

Now the subject matter can be presented; for example, an analysis of a poem or short story can be given, followed by discussion topics.

#### *Nothing But The Truth*

In *Nothing But The Truth* course, three html pages were added, in which each main character is discussed.

club ► Kani ► Resources		
Topic	Name	Summary
2	Sipho	<b>Sipho</b> Sipho, the protagonist of 'Nothing but the Truth' is portrayed as the small, insignificant 'everyman', waiting all his life for recognition, emancipation and the simple dignity of being an equal citizen in the new South Africa.
	Thando	<b>Thando</b> Thando is Sipho's only daughter. She is a teacher who also works as an interpreter at the Amnesty hearings of the Truth and Reconciliation Commission.
	Mandisa	<b>Mandisa</b> Mandisa is Themba's daughter, who she was born and bred in England. We meet her for the first time in Act I, Scene 2.
3	Historical Facts	Some interesting facts on some of the people mentioned in the play.

Figure 6.12 Example of resources used in the *Nothing But The Truth* course

Web pages are again used to supply the information so that it can be read from a cellular phone. Here follows an example of what the content looks like from a cellular phone.

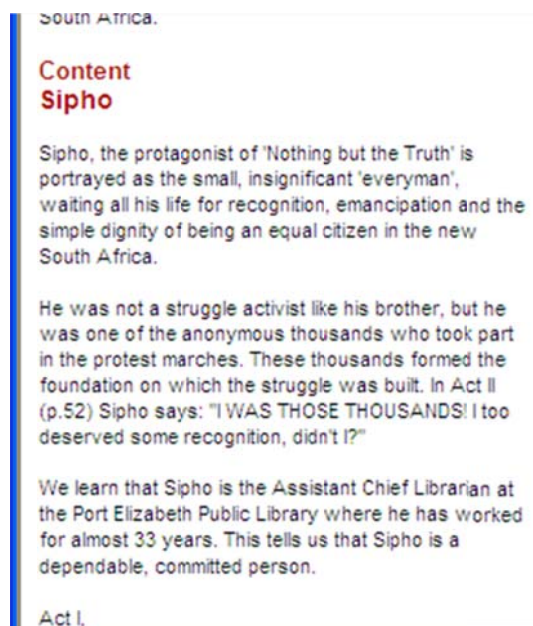


Figure 6.13 Example of how a web page is displayed on a cellular phone

## Short Stories

In the short story section, a short summary of the story is given. The learner can read the summary for some basic background knowledge. The actual material that should be presented is the short stories themselves, which the learners should have read.

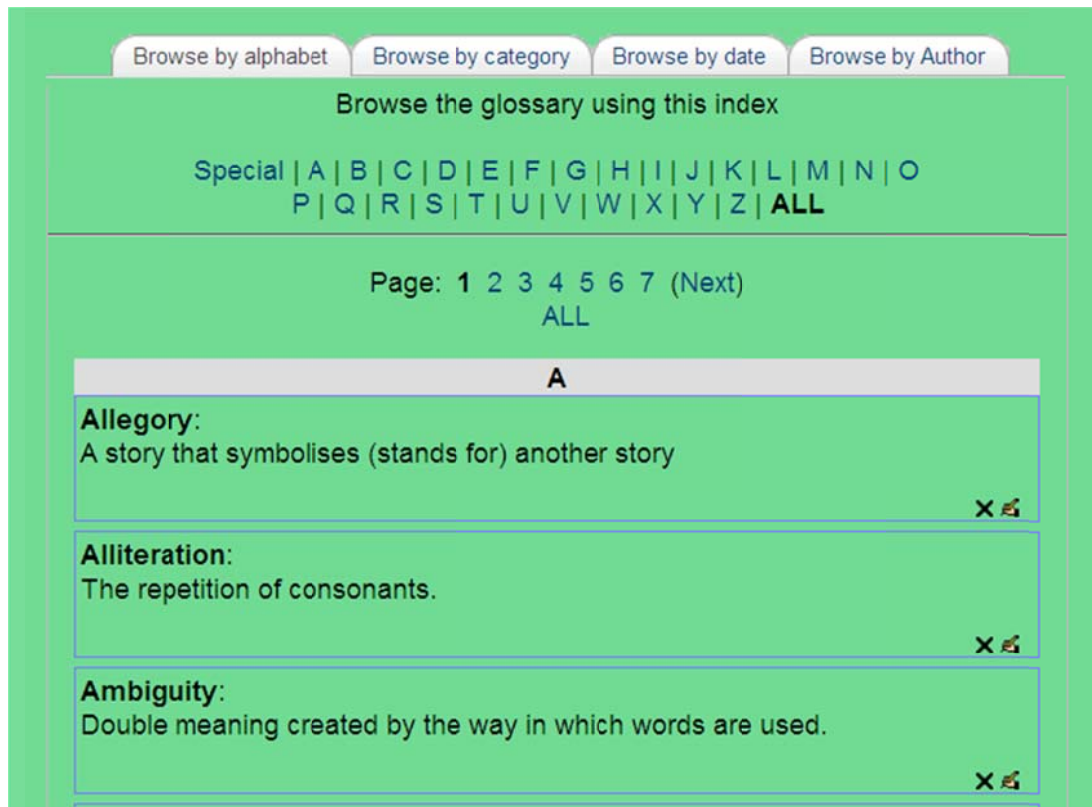


### 6.2.6 Provide learning guidance

Teaching acts should be included which will tell the learner what to learn and how to learn; examples should be provided and terms should be defined.

In both courses, learning guidance is given in the form of a glossary, which defines the terms used in describing a play or short stories.

The glossary is also used as an interactive activity. A learner can browse through the glossary for information, but a learner is also able to make comments about entries and to rate entries.



*Figure 6.14 Example of glossary activity*

### ***Nothing But The Truth***

The Moodle Lesson tool is used to provide learning guidance. The lessons test the learner's knowledge of a certain character. He/she is presented with a possible scenario that the character would face and should then select a choice that the character would hypothetically have made. These lessons are aimed at guiding learners' understanding between direct and implied meaning and also to help learners to understand the characters' point of view.

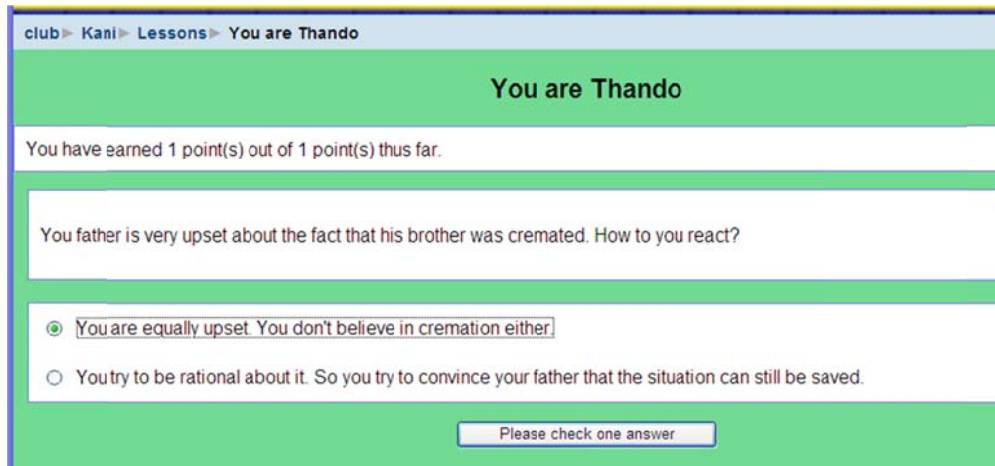


Figure 6.15 Example of Lesson activity used in the *Nothing But The Truth* course

In this example, the learner has to pretend that he/she is Thando. A scenario is given during which Thando has to make a decision. The learner must then guess what Thando will decide, based on what he/she knows about Thando.

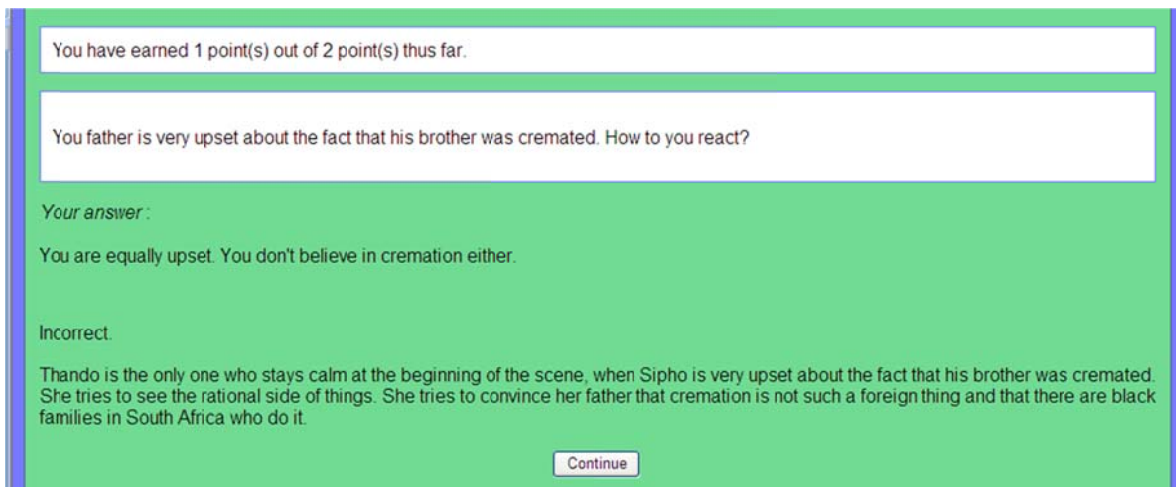


Figure 6.16 Example of feedback given during a Lesson activity

If the answer is incorrect, a reason is given why the answer is wrong. The learner can then continue to the next scenario. The learner can redo the lesson, until 100 % is achieved.

### Short Stories

Learning guidance in the Short Stories course is also done with Lessons. In this case, the lessons are in the form of comprehension tests. Key extracts of the short story are given and questions



are set on them. All the questions are multiple choice or multiple response questions, which are automatically marked by the system.

The screenshot shows a lesson activity interface with a green header titled "Lesson - The Silk Scarf". Below the header, a white box displays the text: "You have earned 1 point(s) out of 1 point(s) thus far." Below this, a larger white box contains a paragraph of text: "The chauffeur-driven Mercedes Benz, followed by another Mercedes Benz in which there were two escorts, entered the gates of the Oriental Plaza in Fordsburg and came to a stop in the car park. The chauffeur opened the rear doors of the car and two women dressed in designer clothing and expensive jewellery emerged. One of them was the wife of an important official of the African Front; her husband Clive Nebo had already been designated as the foreign Affairs Minister in the new government to be established after the passing of the apartheid era. She was of medium height, with heavy loins, her smooth-skinned complexion having been pampered by beauticians in Sandton salons." Below the paragraph, a question is posed: "What do we learn about Mrs Nebo in the first paragraph?". The user's answer is shown as "Your answer : She wears designer clothing and expensive jewellery." Below the answer, the system feedback reads "That's the correct answer" and a "Continue" button is visible.

Figure 6.17 Example of Lesson activity used in the Short Stories course

If the answer is incorrect, the learner is presented with a choice:

The screenshot shows a lesson activity interface with a green header titled "Lesson - The Silk Scarf". Below the header, a white box displays the text: "You have 9 attempt(s) remaining". Below this, another white box displays the text: "You have earned 1 point(s) out of 2 point(s) thus far." Below this, a larger white box contains the feedback text: "Unfortunately you cannot earn this one point, because your response was not correct. Would you like to keep guessing, just for the sheer joy of learning (but for no point credit)?". Below the feedback text, there are two buttons: "Yes, I'd like to try again" and "No, I just want to go on to the next question".

Figure 6.18 Example of feedback given during Lesson activity used in Short Stories course

He/she can retry the question, but will not be given a mark; as the feedback says: 'just for the sheer joy of learning', or he/she can continue with the next question. A learner again has the choice of completing the whole lesson again. In this way, learners are guided through the stories and will, one would hope, learn the content.

### 6.2.7 Elicit the performance

Here the learner should show that he/she has mastered the objectives of the lessons. For example, the learner can be asked to take part in a discussion; take part in the completion of a wiki or blog; or complete an assessment.

#### *Nothing But The Truth*

The assessments in *Nothing But The Truth* consists of different kinds of activities. The following activities were added: a quiz consisting of multiple choice and matching questions, which are marked by the system; a forum in which essay questions can be practiced; a quiz with open-ended questions which can be marked by the learner; and a blog which can be used to practise essay questions.

#### Quiz

The first assessment is a quiz (called Prepare-For-The-Exam-Quiz). The questions of the quiz are randomly selected from a database of questions. This means that the quiz will look different every time the learner attempts the quiz. This quiz is used to test the learner's general knowledge and understanding of the play.

**Prepare-for-the-exams Quiz - Attempt 1**

Page: (Previous) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 (Next)

---

**4**    How did Mrs Meyers support Siphos?

Marks: 2

Choose at least one answer.

- a. She told him to enrol at UNISA for a Diploma in Librarian Management.
- b. She helped him to become a lawyer.
- c. She gave him money.
- d. She allowed him to do his articles at the library.
- e. She put him in charge of the African section at the library.
- f. She made him Assistant Chief Librarian.

---

Page: (Previous) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 (Next)

Figure 6.19 Example of a question used in the Prepare-for-the-exams quiz used in the *Nothing But The Truth* course

Adaptive mode is not used, which means that the learner has to complete the whole assessment, before feedback is given. A learner will be able to complete the assessment again.

club > Kani > Quizzes > Prepare-for-the-exams Quiz > Review of attempt 1

## Prepare-for-the-exams Quiz

### Review of attempt 1

[Finish review](#)

<b>Started on</b>	Friday, 11 June 2010, 01:02 PM
<b>Completed on</b>	Friday, 11 June 2010, 01:15 PM
<b>Time taken</b>	13 mins 21 secs
<b>Marks</b>	6/30
<b>Grade</b>	2 out of a maximum of 10 (20%)

Page: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 (Next)

[Show all questions on one page](#)

**1** What is Sipho's opinion about Themba being a political activist?  
Marks: 2

Choose at least one answer.

<input checked="" type="checkbox"/>	a. He talked a lot, but did very little. ✓
<input checked="" type="checkbox"/>	b. He told people to do things that he didn't have to do. ✓
<input checked="" type="checkbox"/>	c. He went to political gatherings to chase women. ✓
<input type="checkbox"/>	d. He was a very good political activist who set a good example. ✗
<input type="checkbox"/>	e. He suffered a lot as a political activist. ✗

**Correct**  
Marks for this submission: 2/2

Figure 6.20 Example of feedback given on a question

## Forum

In the next example of an assessment that can elicit performance, the forum tool is used. The question is displayed and then broken up into the three main sections. Learners can then contribute to the discussion by completing each of the sections.

This forum allows everyone to choose whether to subscribe or not  
[Force everyone to be subscribed](#)  
[Show/edit current subscribers](#)  
[Unsubscribe from this forum](#)

**Essay question:**

- Sipho's and Themba's experiences during childhood.
- Sipho's feelings regarding Themba's reputation as a hero of the struggle.
- Themba's affair with Sipho's wife.

Discuss why Sipho finds it hard to forgive Themba even after many years. In your essay discuss the following points:

**Length:**  
250 – 300 words.

[Add a new discussion topic](#)

Discussion	Started by	Replies	Last post
Sipho's and Themba's experiences	 Marinda Van Rooyen	0	Marinda Van Rooyen Fri, 6 Aug 2010, 10:14 AM
Sipho's feelings	 Marinda Van Rooyen	0	Marinda Van Rooyen Fri, 6 Aug 2010, 10:14 AM
Themba's affair with Sipho's wife	 Marinda Van Rooyen	0	Marinda Van Rooyen Fri, 6 Aug 2010, 10:13 AM

Figure 6.21 Example of a forum used to assess an essay question in the Nothing But The Truth course

## Quiz 2 with open-ended questions

The next example of an assessment is also a quiz, but this time open-ended questions are used, which cannot be marked by the system.

children. Elderly people mourn much longer. He won't allow me to go with you to Jo'burg.  
 MANDISA Girl! 'He won't allow you!'  
 THANDO Things are different here. This is not London. There are rules in this house. 30  
 For as long as I am staying with him under his roof there are rules and they're his rules [laughing]. Would you like some tea?  
 [Act 1 Scene2]

**1**  
 Refer to line 1  
 Marks: 2  
 ('He sure had the gift of the gab'). Explain what Thando means by this statement.

Answer:

Trebuchet 1 (8 pt) Lang **B** *I* U ~~S~~  $\times_2$   $\times^2$

Thando is a very good speaker.

Figure 6.22 Example of a quiz containing open-ended questions as used in the *Nothing But The Truth* course

It is possible to give learners teacher's rights to a single activity used in the course by going to 'Locally assigned roles'. Learners are given 'non-editing teacher' rights to this assessment. This enables a learner to complete the assessment and then to mark the assessment himself/herself.

Roles	Description	Users
Administrator	Administrators can usually do anything on the site, in all courses.	0
Course creator	Course creators can create new courses and teach in them.	0
Teacher	Teachers can do anything within a course, including changing the activities and grading students.	0
Non-editing teacher	Non-editing teachers can teach in courses and grade students, but may not alter activities.	5 Honeybee Buzz gladwin lopez Marin Mistwalker leanne vigaro silvine williams

Figure 6.23 Screen print of learners getting access to a single activity in a Moodle course

When the learner reviews the assessment, the answer that he/she gave as well as the correct answer is displayed. By clicking on: 'Make comment or override grade' a learner can then mark the question.



Figure 6.24 Screen print of the review of a quiz containing open-ended questions

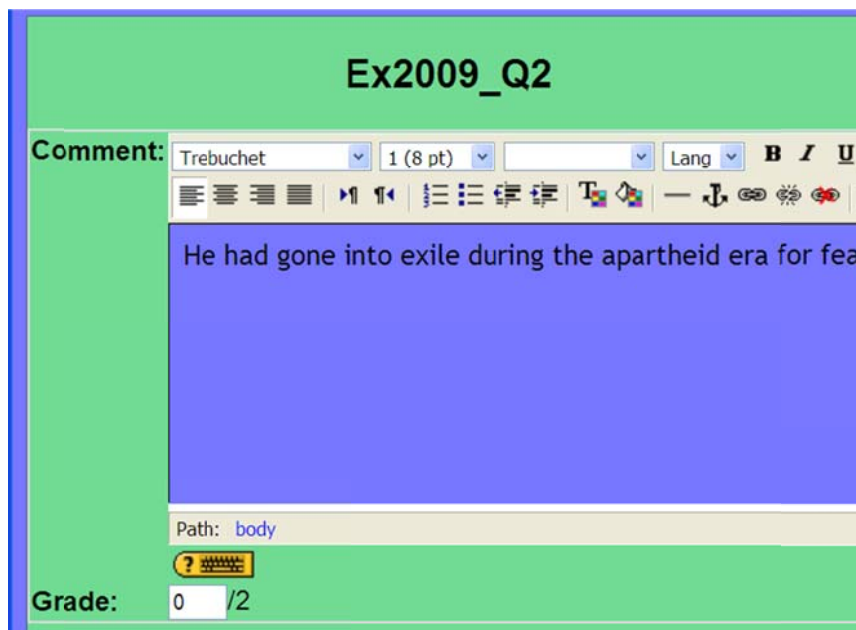


Figure 6.25 Screen print of the marking of an open-ended question



The marks will then be updated once the assessment has been marked.

**3**  
 Refer to lines 6 – 8  
 Marks: 3

**('Father wanted me ... "home", South Africa'). Briefly discuss Mandisa's relationship with her father.**

Answer: **She loved her father very much and thought he was a political hero.**

She loved her father very much. (1) She saw him as a hero. (1) She was close to her father (1)

[Make comment or override grade](#)

**Partially correct**  
 Marks for this submission: 2/3. You were not penalized for this submission.

Figure 6.26 Screen print of a marked question like after the system has updated the marks

If a teacher makes use of a similar activity in class, and only his/her learners have access to this module, it is possible to use an activity like this to introduce a peer group activity. Learners are able to see other learners' tests, so they can be asked to mark each other's tests. Everything a learner does is recorded, so it is possible to keep track of what the learners do to make sure that they do not abuse the system. Learners can be given group access to this activity, which means that if a group of four learners are created, they will only be able to see the quiz of the other members of their group.

## Blog

I used *OU blog* to create an activity that can be used to practise essay questions.

club ► Kani ► OU blogs ► Essay question - Themba

New blog post

**Themba**  
 Thursday, 10 June 2010, 01:40 PM  
 by Sizwe Majazi  
 Visible to participants on this course

**Themba as father**

Themba is a good father. He loved Mandisa, and he wanted only the best for her. He wanted her to become a doctor, but she did not want to. She didn't know what is good for her, so she became a fashion designer. He also wanted her to marry a black man, which is also best for her, but here she also did not listen, because she dated an English guy.

**Themba as brother**

Themba wasn't a very nice brother. He did some pretty nasty

**Essay question - Themba**

Even though Themba is not an active character in the play, we learn a lot about him from what the characters in the play say about him.

Describe Themba as father, brother and political activist.

Remember to give examples from the play to substantiate your answer.

Length: 250 - 35- words.

Figure 6.27 Example of an OU Blog activity to practise an essay question as used in the *Nothing But The Truth* course

When a learner clicks on the link, he/she is able to see the essay question on the right hand side and all the blogs entries added by other users. He/she can then add a blog post or a comment to a blog.



Figure 6.28 Example of a comment added to a OU Blog activity

If using this activity as part of classroom activities, it is again advisable to give learners access in groups, so that they will only be able to see 3 to 4 blogs, depending on the size of the group.

Unfortunately, this activity is also not available on a cellular phone, but learners can make use of Moodle's own blog facility, which on the cellular phone is available from the community module.

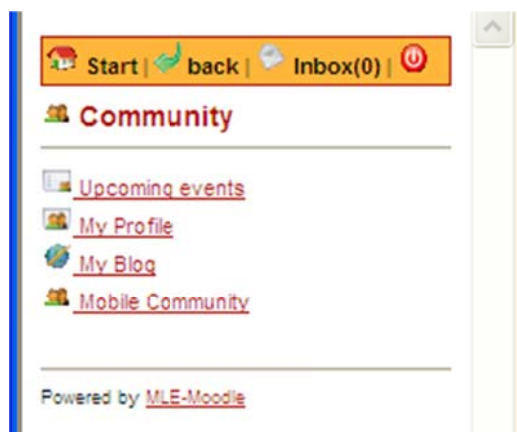


Figure 6.29 Screen print of Community module with available Blog facility

## Short Stories

Assessments in the short stories consist of the following:

Each short story has a discussion on some aspect of the story.

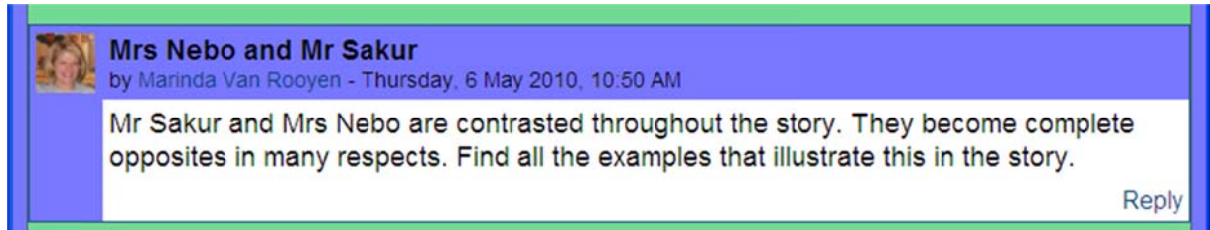


Figure 6.30 Example of a discussion question used to assess learners' ability to answer longer questions

These discussions can be used to train learners to give longer answers to questions.

Each Short Story also has a quiz to test a learner's knowledge of the story. Adaptive mode is not used, so that a learner has to complete the whole quiz before feedback is given.

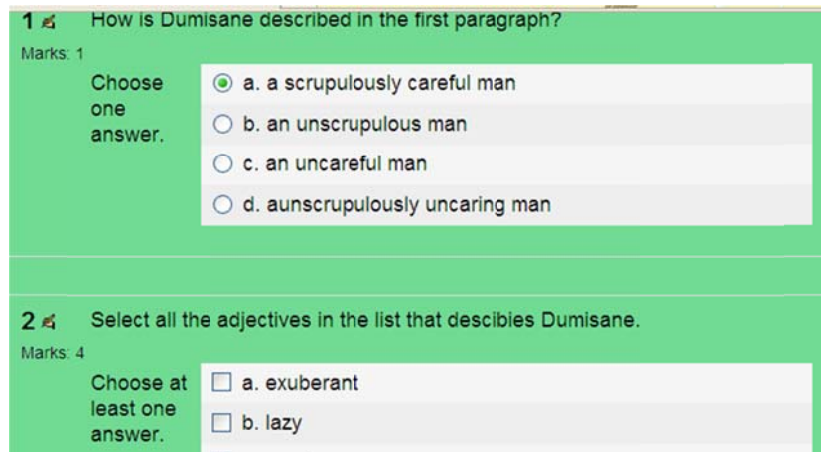


Figure 6.31 Example of questions that are part of the quizzes used in the Short Stories course

An extra section is added that contains questions from past examinations. It contains another open-ended quiz that can be marked by the learner himself/herself.

This section also contains an *OU blog* activity, which can be used to practise the essay question. The rubric and memo are provided so that learners can mark their own essay. If this activity is used in a classroom, the teacher could give group access to it so that learners can peer mark the essays.



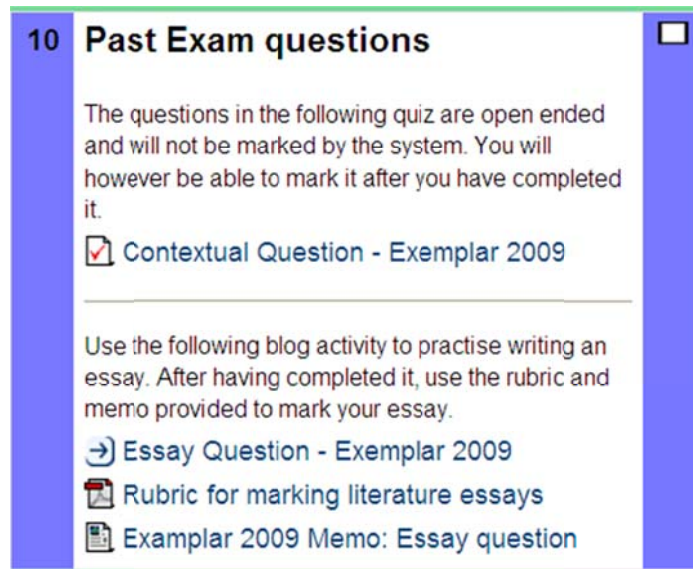


Figure 6.32 Screen print of Past Exam Questions section used in the Short Stories course

### 6.2.8 Provide feedback

The feedback was discussed in Chapter Five.

### 6.2.9 Assess performance

A learner can assess his/her own performance by either viewing the marks received for the various quizzes or lessons, or by looking at the comments made by either the teacher or other learners.

Grade item	Grade	Range	Percentage	Feedback
Nothing but the Truth - John Kani				
Act 1 Scene 1	25.80	0.00-33.00	78.18 %	
Act 1 Scene 2	-	0.00-28.00	-	
Act II Scene I	-	0.00-60.00	-	
Prepare-for-the-exams Quiz	-	0.00-10.00	-	
Create a quiz	-	0.00-100.00	-	
You are Siph	8.00	0.00-10.00	80.00 %	
You are Thando	7.00	0.00-10.00	70.00 %	
You are Mandisa	-	0.00-10.00	-	
<b>Course total</b>	<b>76.98</b>	<b>0.00-100.00</b>	<b>76.98 %</b>	

Figure 6.33 Example of a learner's user report

As stated in the literature review chapter, assessing performance should not only be in the form of marks or grades. The assessment of performance can consist of comments only. The wikis, blogs and discussions form part of this type of performance assessment.

However, it is possible to create entries in the grade book and to grade learners' performance in these activities, if a teacher sees the need for this type of assessment.

### **6.2.10 Enhance retention and transfer**

"Here e-learning transactions should be designed to help the student to retain the lessons learned or skills gained and use them in other circumstances or situations." Gilbert & Gale (2008:198).

By taking part in the social activities, like completing wikis or blogs or taking part in the discussions, learners practice to express their own opinions and engage in discussion about the texts.

#### **Wiki**

In *Nothing But The Truth*, a wiki is used to encourage learners to work together and to teach them how wikis work. The learners have to work together to complete an essay question:

#### **Essay question:**

Although we only get to know three characters in this drama, they are all very different. Do you agree with this statement?

Write an essay in which you discuss and compare the following characters:

**Sipho**

**Thando**

**Mandisa**

Remember to substantiate (back up / say why you are saying) all your points / comments with examples and / or quotations from the play.

You must have an introduction followed by a few paragraphs and you must end your essay with a conclusion.

**Length:** 250 – 300 words.

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It is possible to see which learners contributed to the wiki, by visiting the History link. By clicking on 'Browse', the teacher can read the wiki.

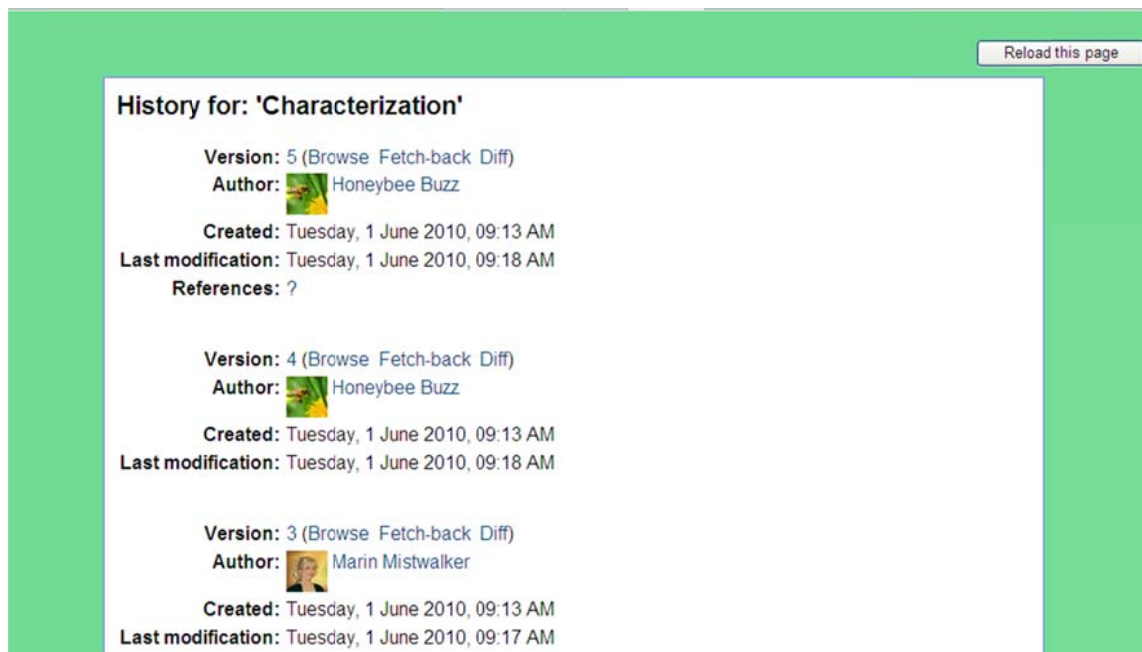


Figure 6.34 Example of the 'History' section of the wiki activity

By clicking on 'Diff', the teacher can view the contribution of a specific learner. It shows the differences between the previous version and the new version that the learner created.

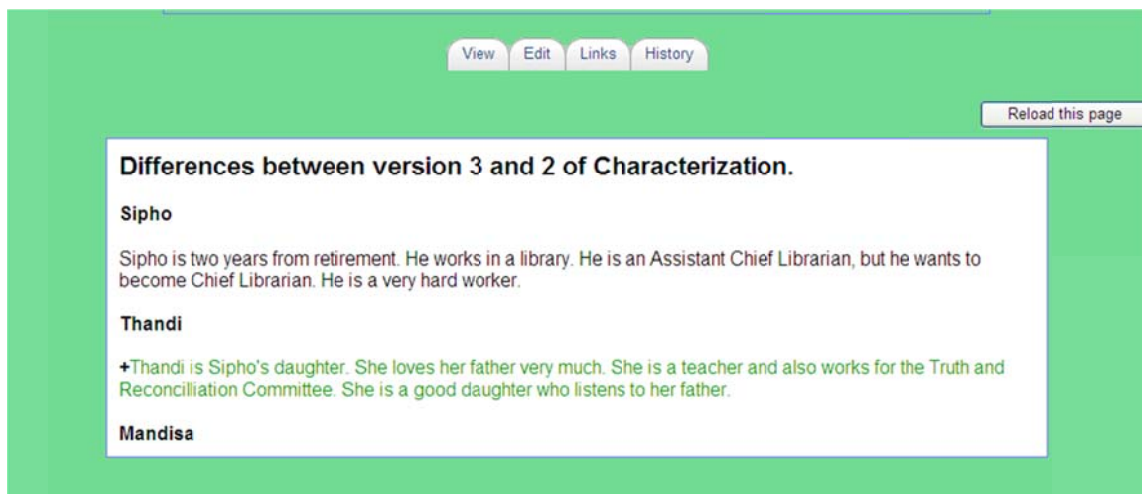


Figure 6.35 Screen print of the 'diff' section of the wiki activity

By clicking on 'Fetch-back', the teacher can edit the wiki.

### 6.2.11 Evaluate

This part is lesson management and not part of the e-learning event. This is where the instructor gathers data to evaluate the lesson. The effectiveness of the quizzes can be determined by making use of the item analysis tool, which analyses each question and the responses made to each question.

Q#	Question text	Answer's text	partial credit	R. Counts	R.%	% Correct Facility	SD	Disc. Index	Disc. Coeff.
(312)	Typical. Just like h : "Typical. Just like him. Always not there to take responsibility. " Who is Siphon talking about?	<b>His brother</b>	(1.00)	42/43	(98%)	98%	0.152	0.73	0.36
		His father	(0.00)	0/43	(0%)				
		His cousin	(0.00)	0/43	(0%)				
		His nephew	(0.00)	0/43	(0%)				
(313)	Why is Themba not th : Why is Themba not there to take responsibility?	<b>He died</b>	(1.00)	39/43	(91%)	93%	0.257	0.80	0.57
		He is in England	(0.00)	2/43	(5%)				
		He is at the library	(0.00)	0/43	(0%)				
		He is at a political rally.	(0.00)	0/43	(0%)				

Figure 6.36 Screen print of question entries as analysed by the item analysis tool

In this way, the effectiveness of each question can be analysed and questions can be altered if necessary.

A detailed report can be compiled about the activities of a learner which contains the number of times a learner viewed certain content as well as any entries made by the learner in forums, blogs or wikis. It also contains the marks a learner obtained in the quizzes.

## Chapter 7: Conclusion

The Khanya project aims at providing each school in the Western Cape with sufficient computers by the end of 2012.

By the start of the 2012 academic year, every educator in every school of the Western Cape will be empowered to use appropriate and available technology to deliver curriculum to each and every learner in the Western Cape. (Khanya Annual Report, 2008:3)

Schools that have computers and internet access will have access to a Learning Management System through the internet. If a school does not have access to the internet, but has a classroom where the computers are linked in a local network, a Moodle server can be set up on one of the computers, which will act as the local server. The courses can be backed up and imported into the Moodle server at the school. All the computers will then be able to connect to the server and learners will therefore be able to gain access to the resource.

However, schools usually have one or, at most two, computer laboratories, which are more often than not used to teach Computer Applications Technology or Information Technology. This means that teachers of other subjects have limited access to the computer laboratory. If the computer laboratory could be made available to learners after hours, they will have more time to access the LMS.

The ideal, however, is that the LMS is on a computer that has access to the internet, so that learners are also able to access this information from home through the internet to extend the learning time. Many public libraries also have computers with free internet access, which makes it possible for learners to access the resources from there.

For those learners who do not have access to computers or the internet when they are at home, it is also possible to access the LMS through their cellular phones, which will make it possible to complete most of the activities that are part of the courses.

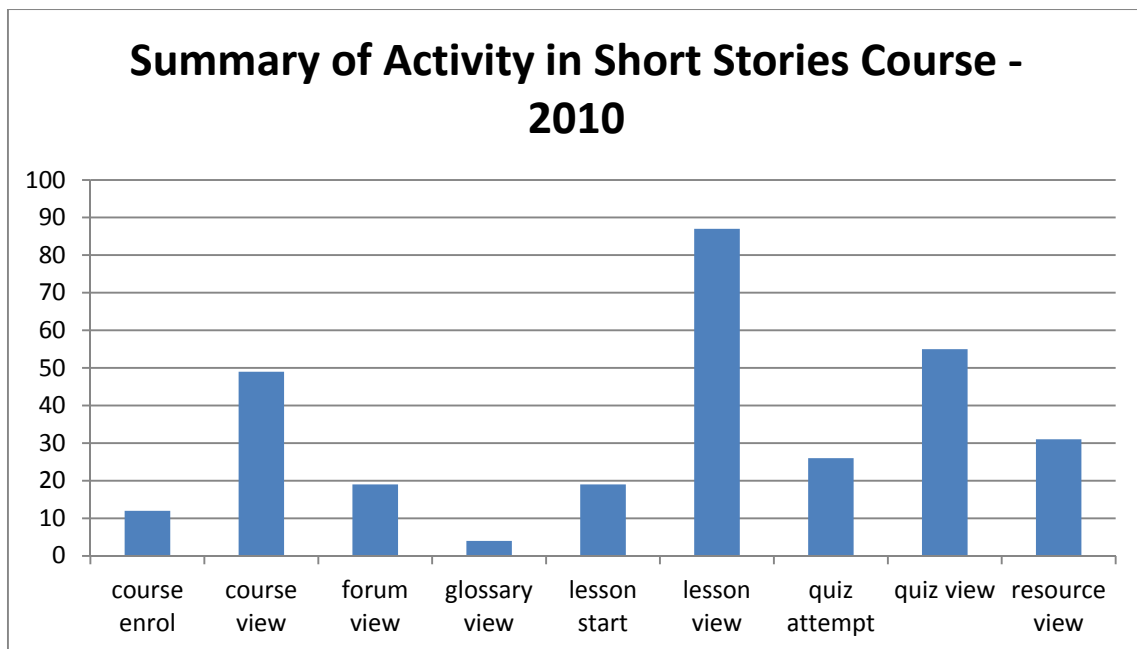
Several learners were able to create profiles and to log in and take part in the activities. One learner made use of a cellular phone to access the courses. This learner viewed a number of the web pages and completed some of the quizzes from a cellular phone. The resources are, therefore, accessible from either a computer or a cellular phone.

This study focused on the feedback and design of the courses and determined what online learning material for Grade 12 learners should look like so that it will provide enough scope for effective learning to take place. Since online learning programs differ from classroom programs, and the kind

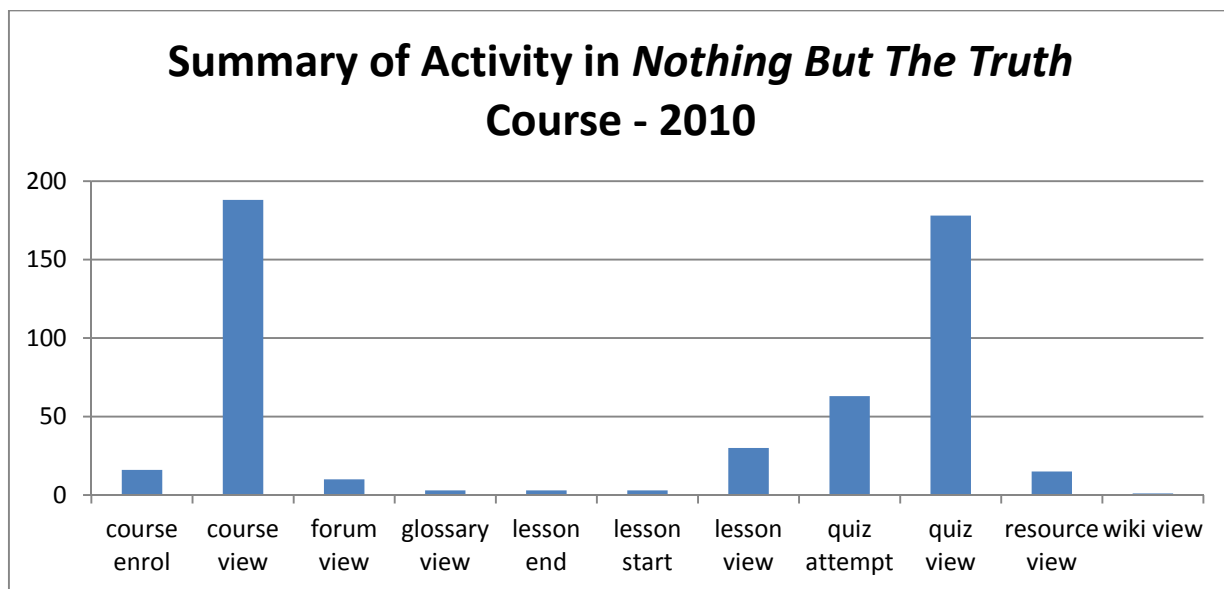
of activities that can be completed online differ from those completed in a classroom, it is important that the design of the courses should be thoroughly researched. The course outline used in a classroom will not necessarily work for an online learning program.

The learning program that I created has been available since May 2010. I attempted to advertise it in a number of ways, with very little success. I also sent an email to the Western Cape school mailing list, which resulted in a number of users creating profiles on the LMS. These users (probably teachers) visited the site a number of times. Then on 16 May 2010, a large number of learners from a secondary school in the Cape created profiles and started to complete some of the quizzes in the *Nothing But The Truth* course. Since then sporadic activity took place in both courses.

The following two graphs display the activity of actual participants, excluding the fictional ones created as part of the evaluation, since the two courses were made available in May 2010. The participants of both courses differ.



Graph 1: Summary of Activity in Short Stories Course - 2010



*Graph 2: Summary of Activity in the "Nothing But The Truth" Course - 2010*

As seen from both graphs, a lot of viewing was done, but with very little participation. This placed a limitation on the study. When participating, the learners also preferred to take part in the instructional behaviouristic activities like the lessons (see graph 1) and the quizzes (see graphs 1 & 2). A number of the learners did attempt the quizzes more than once, each time improving on the previous attempt, as was discussed in section 5.1. As this was one of the aims of the quizzes, this showed positive results.

The use of technology in teaching and learning is still a relatively new notion in schools in South Africa as very few teachers or learners have been exposed to it. The fact that learners were able to access and make use of the learning program proves that it is possible to make resources like these available to learners and that the learners are able access them and complete the activities. However, it is not enough to inform learners about courses like these used as part of the study. They have to be taught how to use them.

My evaluation of the Learning Program showed positive results. The answer to the research question is that it is possible to provide Grade 12 learners with online learning material that can result in effective learning. Moodle has several activity modules that can keep the learning experience interesting and positive and it can provide quality feedback. It was also possible to make most of the activities available on cellular phone.

Even though technology can never replace a dedicated and hard-working teacher, the learning activities do provide enough feedback so that a learner can use it to study with effectively. In the

absence of a teacher, it is possible to use Moodle to supply learners with a quality learning experience.

The fact that the learners did not take part in any of the social learning activities, made it impossible to evaluate the effectiveness of this social constructivist learning environment. This was, however, not one of the research questions. Determining the effectiveness of the social learning activities will form part of the program monitoring which will commence in 2011. Program Monitoring is not a single-episode evaluation like formative evaluations, but an ongoing process. (Royse, et al., 2006:130ff)

Osman Sadeck, the Acting Director of WCED, e-Learning & Library Services, is currently creating a Moodle site that will be used by the Western Cape Education Department as Learning Management System. The two courses, created for this study, will also be made available on this site for teachers and learners to use which will increase the availability of the courses and create a more comprehensive base from which to monitor the program.

This study will continue next year. An attempt will be made to advertise it to more schools and to teach learners how to use it. Learners will be encouraged to take part in the forums, blogs and wikis, so that the effectiveness of the social constructivist environment can also be evaluated.



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