

ASSESSING THE EFFECTIVENESS OF MOODLE AS A TEACHING AND
LEARNING TOOL AT THE UNIVERSITY OF ZAMBIA.

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AUTHORS DECLARATION

Hanakaamba Ethel, Mumba Mambwe, Mweetwa Lweendo do hereby solemnly declare that this report represents our own work, except where otherwise acknowledged and it has never been previously submitted for a degree at the university of Zambia or any other University.

Signature.....Date.....

APPROVAL

This report of **Hanakaamba Ethel, Mumba Mambwe, Mweetwa Lweendo** is approved as fulfilling the partial requirements for the award of a Degree in library and information science by the University of Zambia.

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ABSTRACT

This study employed a survey research design to assess the effectiveness of Moodle as teaching and learning tool in the University of Zambia. The purpose of this study was to assess how both lecturers and students view Moodle in term of what it is, how it is used, how effective, reliable it is, the challenges they faced and if they would recommend it.

The University of Zambia was purposively sampled and total of 100 students and 8 lecturers were target. Students were sampled through simply random sampling so as to give equal chances of participation to students while lecturers were purposively selected. Questionnaire and interview guide were administered to students and lecturers respectively. All interviews were transcribed and coded for themes. After systematic analysis it was discovered that many students were not aware of what Moodle despite services being offered by the University library to train students on how to use Moodle it was but it was not the case for lecturer, as many of them were aware of it but showed no interest to further their acquaintance with it despite the management putting up trainings for lecturers. It was concluded that many most of the respondent only heard of it but were rarely or hardly used it.

The researchers recommended that more effort, time and emphasis should be put in to educate both lecturers and students on the use of Moodle and how they can fully benefit from it. In addition, lecturers and students should also be well educated and trained on how to operate and access Moodle in order to reduce cases of failure to operate or use. Internet connectivity on campus should also be in abundance and cater for students at any time or place when they wish to access or use it; this would reduce failure of use because of internet problems.

DEDICATION

This work is dedicated to the Hanakaamba's, Mumba's, Mweetwa's and Nonde's family. We know they would be proud to see our work. To our friends who always rendered their support as well as encouragement.

To our parents who always inspire us to aim higher in life, reminding us that not even the sky is the limit.

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1.0 Introduction

Moodle stands for modular object-oriented dynamic learning environment. As an acronym the name was chosen because of the dictionary definition of Moodle and to correspond to an available domain name (Gavin, 2013). Moodle was originally developed by Martin Dougiamas to help educators create online courses with a focus on interaction and collaborative construction of content with continual evolution, the first version of Moodle was released on the 20th of August 2002. Moodle's development has also been assisted by the work of open-source programmers (Krassa, 2013).

Additionally Moodle is an effective open-source LMS platform that is being used today by many institutions including schools. The platform aims to create e-learning websites that can be accessed only by enrolled students. It also allows synchronous, such as chats, and asynchronous, such as forums and exchange of information among users. In a functional perspective, Moodle has features which can be created from course assessment material, such as quizzes and online tests (Foster, 2008).

Technology is dynamic in this world we live in and it has touched many aspects of our lives touched many aspects of our lives, the educational sector being one of them. Thus the need improve information and communication technologies (ICTS) as well as resources. These technological advancements have contributed to the introduction of e-learning, which has developed into a universal change agent in higher education; it has become more diverse in its form as well as application (Stein, 2011).

Foster (2008), states that because of the technological evolutions that exist, schools today have resorted into using a learning platform that is commonly known as Moodle, which is an effective open-source LMS platform. The platform aims to create e-learning websites that can be accessed only by enrolled students. It also allows synchronous, such as chats, and asynchronous, such as forums and exchange of information among users. In a functional perspective, Moodle has features which can be created from course assessment material, such as quizzes and online tests further the development of e-learning has become a major aspect in the teaching as well as learning process as alluded to by (Stein, 2011).

Therefore learning platforms such as Moodle helps institutions such as universities to come together with an aim of helping students to excel in their academic pursuit and due to the growing use of Moodle in institutions like schools, this study will thus stress on investigating

how effective Moodle is as a teaching and learning tool in schools specifically at tertiary level.

1.1 Background of the study

Moodle was originally developed by Martin Dougiamas to help educators create online courses with a focus on interaction and collaborative construction of content with continual evolution. On 20 August 2002, the first version of Moodle was released. Currently the Moodle Project is led and coordinated by Moodle HQ, an Australian company of 50 developers which is financially supported by a network of eighty-four Moodle Partner service companies worldwide. Moodle's development has also been assisted by the work of open-source programmers (Krassa, 2013).

Secondly, the letters making up the word Moodle stands for modular object-oriented dynamic learning environment. As an acronym, the name was chosen because of the dictionary definition of Moodle and to correspond to an available domain name (Gavin, 2013).

Agreeably, the use of Moodle free and open-source learning management system (LMS) is very important to any institute of learning in improving academic standards. Most importantly, Moodle was developed on pedagogical principles and is used for blended learning, distance education, flipped classroom and other e-learning projects in schools, universities, workplaces and other sectors. Thus it is imperative for institutions to use the system to its full capacity to make academic dissemination of information easier for learners and lecturers (Gavin, 2013).

Additionally, Moodle as a learning platform can enhance existing learning environments. As an E-learning tool, Moodle has a wide range of standard and innovative features such as a calendar and a Grade book. Moodle is a leading virtual learning environment and can be used in many types of environments such as education, training and development and in business settings (Costello, 2013).

Furthermore, Moodle has continued to evolve since 2001 with the current infrastructure. Most importantly, the learning tool has been translated into over 100 different languages making it easy for the use and is accessible in many countries worldwide. Institutions can add as many Moodle servers as needed without having to pay license fees. Most Universities around the world uses the learning tool for their users as a learning management system (Horvat et al, 2015).

The utilisation of Moodle is fast growing every day and most institutions such as schools keep improving in the use of learning platforms such as Moodle. Most scholars have tried to investigate the effectiveness of Moodle as a teaching and learning platforms, however, most studies focus much on Moodle as a teaching platform and neglects its effectiveness as a learning platform. It is therefore the aim of this study to investigate the effectiveness of Moodle as a teaching and learning platform.

1.2 Statement of the problem

The use of Moodle as a free and open source learning management system is very important for large universities like The University of Zambia UNZA. Thus, it is unfortunate that the system has not been utilized at the University to its full capacity and this is through. Most universities around the world use Moodle to facilitating learning in different forms such as submission of assignments with feedback from the respective lecturers. This system has been operating at The University of Zambia long enough to benefit students and the institution in all academic endeavours but, unfortunately it is limited to few programmes of study like Library and Information Science (LIS), research through face to face interviews, has shown that most regular students at the University of Zambia do not know what Moodle is (The University of Zambia, 2017).

However distance students know Moodle, but are not familiar in the using, in that it is used as a platform for assignment handing, notes and test result posting. Most students ask for help from others to send their assignments and to check their test results. Therefore, there is need to assess the effectiveness of Moodle as teaching and learning tool between lecturers and learners at UNZA among students that use Moodle (The University of Zambia, 2017)

1.3 Aim of study

The aim of this study was to find out how effective Moodle is as a teaching and learning tool among lectures and students at the University of Zambia.

1.4 OBJECTIVES

1.4.0 General objectives

To investigate how effective Moodle is as a teaching and learning tool.

1.4.1 Specific objectives

- i. To find out how Moodle is used as a teaching and learning tool.
- ii. To establish how effective Moodle is as a teaching and learning tool
- iii. To determine lecturers and students attitudes towards Moodle as a teaching and learning tool.
- iv. To identify challenges lecturers and students face in dealing with Moodle as a teaching and learning tool.

1.5 Research questions

The following are the research questions and are in line with the objectives;

- i. How is Moodle used as a teaching and learning tool?
- ii. How effective is Moodle as a teaching and learning tool?
- iii. What are lecturers and students attitudes towards Moodle as a teaching and learning tool?
- iv. What challenges are faced by lecturers and students in dealing with Moodle as a teaching and learning tool?

1.6 Significance of study

This study was important because it highlighted the prominence that Moodle has had on students and lecturers at The University of Zambia. The study was also analysed how the introduction of e-learning platform such Moodle enhanced the teaching and learning process and how e-learning is becoming an even more better tool in the teaching and learning process at higher levels of education. Moodle is beneficial in higher education because on the part of students; it allowed for ease of use for learners, better appealing content because it supported a variety of media, it also allowed students to have easier communication and collaborating with peers because it has a chat module, students were also able to test themselves through quiz activities which enabled students to build their knowledge and confidence, lastly, it enabled students to customise their own dashboard or homepage within the site to tailor information and links that were specific to their own needs. Lecturers benefit from Moodle because it allows; the sharing of materials to students easily, managing access to learning materials for students, updating course content can be done 24/7, communicating with students and managing work submissions are just among the few things lecturers benefit from. Lastly the study also highlighted the challenges that lecturers and students faced in dealing with Moodle at The University of Zambia.

1.7 Limitations

Despite Moodle being an old concept at the University of Zambia, many of the university lecturers and students were not aware of it or hardly use it in their teaching and learning process. This study was only conducted at UNZA thus this limited the extensiveness of the data collected.

1.9 Operational terms

- ❖ Moodle is an acronym for Modular Object Oriented Dynamic Learning Environment. It is an educational platform that provides custom learning environments for students. It is also a free web application that educators can use to create effective online learning sites.
- ❖ Teaching Tool is an aid used by the teacher, lecturer or educator as a facilitator to the process of teaching and learning inside the classroom.
- ❖ Learning Tool refers to something that a student uses to work through big ideas, concepts or processes while demonstrating his or her thinking, planning and decision-making on the way to creating, performing or responding to work.
- ❖ Lecturer refers to an academic rank within many universities, though the meaning of the term varies from country to country. It generally means an academic expert who is hired to teach on a full- or part-time basis. They may also conduct research.
- ❖ Student is primarily a person enrolled in a university or other higher educational institutions who attends classes in a course to attain the appropriate level of mastery of a subject.

1.9 Ethical consideration

Ethical considerations in research can be defined as ensuring that the researcher conforms to the standards of conduct of the authorities in the area of research. Examples of ethical issues that may arise are voluntary participation of respondents, deception to participants, anonymity and confidentiality of information given, analysis and reporting, harm or danger to participants and any other professional code of ethics expected. To ensure that the research was done in an ethical manner according to expectations of all authorities, a letter from the university was obtained. The researcher informed the respondents the purpose of the instruments being administered and how their responses were treated.

SECTION TWO

LITERATURE REVIEW

2.0 Overview

A literature review is a text of a scholarly paper, which includes the current knowledge including substantial findings, as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources, and do not report new or original experimental work. A literature review surveys books, scholarly articles, and any other sources relevant to a particular issue, area of research, or theory, and by so doing, provides a description, summary, and critical evaluation of these works in relation to the research problem being investigated. It involves extensive reading in areas which are directly or indirectly related to the topic of study (Bolderston, 2008).

Literature reviews are designed to identify and critique the existing literature on a topic to justify the research being carried out by exposing gaps in current research. This investigation should provide a description, summary, and critical evaluation of works related to the research problem and should also add to the overall knowledge of the topic as well as demonstrating how the research will fit within a larger field of study. A literature review should offer critical analysis of the current research on a topic and that analysis should direct the researchers to their research objectives (Hart, 2008).

The literature also shows that a number of relevant studies have been carried out on the use of ICTs. A general user opinion on the use of ICTs, in particular the Internet, has been positive, with students enjoying the use of these resources and finding relatively few problems while using them. The study of online searching revealed that most students enjoyed and found researching academic work easier online as they were acquainted to the system and its operations (Piotrowski, 2010).

Technology advancements particularly by ICT have widely influenced learning processes. Among many computer based educational systems, Learning Management Systems (LMS) is a set of software tools that are specifically designed to support the educational process. All LMS manage the log-in of registered users, manage course catalogues, record data from learners, and provide reports to management (Weaver, 2006).

Azevedo (2009) acknowledges that ICT has been increasingly used in education. In reality, ICT is extensively applied in many countries with advanced educational systems. Moreover, various initiatives have been proposed to impose ICT in countries with developing educational systems. Several studies have been conducted that have revealed the benefits of using e-learning platforms. A study conducted on 51 higher education institutes from 19 different countries found that 14 out of the 51 institutes use multiple LMS tools. Some studies identify Moodle as the easiest and most-widely used platform in higher education. Other studies suggested that Moodle is the second most-widely used LMS after Blackboard.

2.1 How Moodle is used as a teaching and learning tool.

Moodle is an effective open-source LMS platform. It aims to create e-learning websites that can be accessed only by enrolled students. It also allows synchronous, such as chats, and asynchronous, such as forums and exchange of information among users. In a functional perspective, Moodle has features which can be created from course assessment material, such as quizzes and online tests (Foster, 2008).

It is well known that students are more likely to be interested and attentive and will achieve a wider range of learning outcomes if they can be active and learn by doing. Their engagement with the curriculum will increase as they are afforded opportunities to create their own information and represent their own ideas (Paulson & Faust, 2002).

Chee Mew Leng (2006), in his study has put forth that technology-assisted learning experiences provide opportunities for instructors to implement more effective learning paradigms such as students' engagement and active construction of knowledge.

Moodle facilitates student-centred learning. In Moodle, teachers are seen as the course administrators who are responsible for course content. According to Moodle's characteristics, teachers are provided useful functions for managing the course easily. Moodle is convenient for teachers in many perspectives. For example, they can use Moodle to create or store materials. Moodle can also be used as a tool to transfer their instructions. Finally, Moodle helps to reduce the cost and time of delivering instructions. Teachers can save time in creating materials for their teaching. Moreover, they also save paper because those materials are online and students can visit websites without printing their work out for them. Also, they do not need to have any budget for these materials (Garrote, 2007).

To work on Moodle, students can practice themselves using online materials. Content can be studied according to their interests and their proficiency. Lessons and supported activities are provided in Moodle so that they can be selective in their studies. Secondly, Moodle facilitates anytime and anyplace learning, this characteristic makes it easy for students to study online whenever and wherever they want. Besides studying in the classroom, they are provided opportunities to study based on their times of convenience (Plaffman, 2005).

As a LMS, Moodle has three main functions: as an authoring tool, as an administrative tool, and a means of communication (Peter, 2009). With Moodle the potential for classroom teachers and special areas is profound. With educational theory as a backbone, unmatched price and host of benefits, Moodle is an excellent choice to add on-line content. Moodle as an ICT tool has many features expected from a learning platform including: Forums, Content managing, Quizzes with different kinds of questions, Blogs, Wikis, Database activities, Surveys, Chat, Glossaries, Peer Assessment, Multi-language support (Dougiamas & Taylor, 2013).

In their paper, Patriacheas and Xenos (2010) focus on the student participation research in distance education forums and investigated the reasons that strengthen or discourage participation. The study revealed that the asynchronous capabilities of electronic forums allows for more thought, reflection and processing of information and provides a high level of interactivity, which encourages collaboration and influences the learning process.

According to Hoskins (2015), the main reason to use a LMS such as Moodle includes the independence to distribute and modify compatibility, universal access and active cooperation for design improvement. It is seen as user friendly, easy to manage and technically easy to use. This makes it easier for lecturers and students engagement.

2.2 How effective is Moodle as a teaching and learning tool.

Several studies revealed the benefits of using e-learning platforms. A study conducted on 51 higher education institutes from 19 different countries found that 14 out of the 51 institutes use multiple LMS tools. Some studies identify Moodle as the easiest and most-widely used platform in higher education. Other studies suggested that Moodle is the second most-widely used LMS after Black (Piotrowski, 2010).

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asynchronous, such as forums, exchange of information among users. In a functional perspective, Moodle has features which can be set up to form course assessment material, such as quizzes and online tests (Weller, 2007).

Several studies classified Moodle from several perspectives. The study by Blin and Munro indicated that Moodle supports two different sets of functionalities. The first functionality is resources, which includes the digital materials created by other software tools and uploaded to the e-learning platform, such as Power Point lecture notes, Word documents, Flash animations, and video files. The second functionality is modules, which represent the material created using the Moodle platform. Modules mainly include interaction tools between users (usually students and teachers), such as lessons, homework, workshops, chats, discussion forums, news, wikis, quizzes, and surveys (Martín-Blas & Serrano-Fernández, 2009).

Costa et al (2005) classifies the functionalities of Moodle into two groups: configured modules and external tools. The configured modules, which include assignments, workshops, chats, forums, news, quizzes, and surveys, are set up from the Moodle platform and support information exchange between students and teachers. The external tools include blogs, questionnaires, and wikis.

The responses of the students indicate that they have a long-term experience with computing technology and Internet services. Moreover, the study indicates that Moodle is mainly used as a repository to exchange course materials. However, the interactive learning tools of Moodle are not effectively utilized. The students demonstrated a positive perspective towards expanding the use of e-learning tools in the educational process. The results of our study suggest that university leaders and instructors are encouraged to expand the use of Moodle in the educational process, with particular focus on employing the interactive learning tools of Moodle to achieve an effective and interactive learning environment (Paulsen, 2003).

Teaching in an E-Learning environment can contribute to the ability to teach, the ability to learn and most important to bridge between two main components in the classroom, the teacher and the learner. Directed learning provides different environments for learners with dynamic, interactive, nonlinear access to a wide range of information (text, graphics, and animation e.g. Jonassen, 1996; Jacobson & Archodidou, 2000) as well as to self in online communication (e 122 | Page mail and forums).

Learning is based on concepts such as independent learning, active learning, self-based education, simulations, and work-- directed learning, problem based learning (Martens, 2004). Most of these models are based on constructivism in which, according to Reiser (2001), learners become responsible for regulating their own learning process. Self-regulated learners are motivated, independent, and better their own learning (e.g., Duffy et al cognitively active learners in, 1993; Wolters 1998; Dalgarno 1998; Pierce & Jones 1998; Bastiaens & Martens 2000; Herrington & Oliver 2000).

All these instructional models hold that it is crucial to generate the learner's motivation (Martens, 2004). For this reason, many of the computer based learning environments constructed present realistic problems, for example through a simulation or a game. Ryan and Deci (2000) distinguish between extrinsic motivation, which refers to the performance of an activity in order to attain some separable outcome, and intrinsic motivation, which refers to doing an activity for the inherent satisfaction of the activity itself. The effort or motivation on which constructivist e learning environments try to rely is typically intrinsic motivation, with its associated features such as curiosity, deep level learning (aimed at understanding, not rote learning, Marton & Sa'ljö" 1984), explorative behaviour, and self-regulation. Research has shown that intrinsically motivated students show more behaviour that is aimed and can be described as explorative, self-regulated, aimed at deep level processing, and at exploration and reflection (e.g., Ryan & Deci 2000; Boekaerts & Minnaert 2003). To increase the understanding of the relation between e-learning and motivational processes, it is necessary to gain a better understanding of learning materials that are developed to increase motivation (Martens, 2004).

Moodle allows the integration of a wide range of resources, from chats and forums to online booklets, a variety of questions, collections of problems and exercises, lecture notes; including any kind of text based applications and Java applets based or Html formatted documents, multimedia resources such as graphics, video or audio (e.g., MP3 files), PowerPoint, or Flash (Goodwin Jones, 2003). Moodle focuses on giving educators the best tools to manage and promote learning and allows teachers to organize, manage and deliver course materials. From a didactic point of view, the usage of multimedia tools to create attractive activities makes the learning process friendlier for students. As a consequence, these activities increase the interest of the students in their studies. Teachers can provide students with a large amount of resources that they cannot usually show in the classroom due to time constraints. Lesson tasks within Moodle can be linked to any resources that are

uploaded to one's server or that are available on the Internet. The students' exploration of any of the content based resources can be easily assessed by using any of the Moodle based evaluation and feedback tools. Moodle is quite powerful in content creation due to its built in HTML editor. The degree of expertise required is essentially the same as for any word processor. More sophisticated presentations such as animations or text-specific feedback provisions need to be created using exterior multimedia authoring programs. These materials cannot be added in a hard copy booklet.

Moodle has pedagogical advantages since it was built in accordance with the teaching approach which emphasizes the construction of knowledge through active and interactive learning, and learning multi experience through multimedia. The design of Moodle is based on socio-- sensory constructivist pedagogy (Brandl, 2005). This means its goal is to provide a set of tools that support an inquiry and discovery based approach to online learning. Furthermore, it purports to create an environment that allows for collaborative interaction among students as a standalone or in addition to conventional classroom instruction. In the Davidson Institute of Science Education, a non-profit organization committed to the promotion and nurturing of science and math education in Israel, Moodle serves as the primary learning platform for online learning. Since Moodle was first implemented three years ago, over a hundred online mathematics and science courses have been developed with over 5000 school students participating in them annually. A few of the leading programs are Math and Science by Mail, MOTTEC and Beaver. Since its implementation, we have adapted Moodle for 12 science and math teaching and learning and added many features, making it a technologically and pedagogically advanced platform (Lachmy et al 2012).

In this paper we present two of our Moodle based content of activities that combine higher, "MathByMail" and MOTTEC, which include an order skills with content in math, and science and technology for junior and middle school students. In addition, we report on a pioneering attempt to run an evaluation environment among teachers and students. We will demonstrate how the MOTTEC environment provides the teacher with many interesting tools to improve the teaching reinforce their abilities and learning process, and encourages students to knowledge, in a user friendly, simulative manner.

Moodle learning environment, if well designed has the potential to provide technological learning tools, which are also referred to as individual personal tools and collaborative personal tools (Dalsgaard, 2006). The pedagogical potential of these kinds of personal tools

such as, weblogs, wikis, web pages, e-portfolios are to support students independent work process. And the pedagogical potentials of the personal collaborative tools, such as discussion forums, chats, links, e-mails, file sharing, wiki is to support interactions between learners and teachers, among learners, and between learners and content. The educational potential of the Moodle depends very much on the utilization of the technological tools in line with specific learning activities based on social constructivist and social constructionist learning principles.

Naddabi (2007) reports that effective integration of Moodle in teaching and learning process (by making use of the features such as forum, resources links of dictionaries and newspapers, quiz, and journal in teaching) has the following advantages: 1) enhancing students-student interactions and teacher students interactions, 2) finding a real audience to interact with; 3) helping students to do their research for their independent study project; 4) fostering students' independence; and 5) a change of routine. These advantages would commonly be found in any course management system, but it is still basic usefulness of Moodle. To support its effectiveness, the results of a study conducted by Ahmad and Al-Khanjari (2011) showed that students, who were introduced to online learning environment through Moodle, had encouraging, optimistic, and positive approaches and attitudes towards Moodle. Their learning was improved and their understanding of the course material was better. In addition, Hinkelman and Grose (2005) report the results of a pilot listening/reading comprehension placement test at Sapporo Gakuen University. They concluded that with sufficient hardware resources, Moodle was successful in providing a practical technical platform for administering placement tests to large number of students in a short time with time savings in the making and analysis of test results.

Furthermore, Stanley (2007) focuses on vocabulary acquisition in an intensive reading course at Kanda University of International Studies while using Moodle. The results showed that Moodle and its glossary module in particular have been of immense help to teachers while offering students opportunities to learn vocabulary well beyond the classroom even with limited class hours of learning. The finding of the study done by Zoran and Rozman (2010) indicates that the learner type, that is whether a full-time or a part-time student, has no influence on students' perceived usefulness of Moodle learning environment. Goyal & Tambe (2015) reported that an elementary working knowledge of computers will enable teachers and students to use Moodle system well. It is argued that there are consistent research findings in the literature to support the effectiveness, efficiency and ease of use of Moodle learning environment to facilitate students learning processes.

Again, Greyling, Kara, Makka and Van Niekerk's (2008) observed that for instructors to have the relevant skills to be able to utilize LMS tools effectively and to incorporate relevant pedagogical practices in their courses they need to have in-depth training and access to technical support and assistance. It is crucial that instructors are trained and supported to acquire the 'new' pedagogical role and the implementation advantages they can offer to educational technology. When pedagogical approaches to teaching are consistent with the technology, the efforts to use the technology are more likely to yield positive results. Topper (2005: 304) believes that "for teachers to use technology in support of their teaching, and to see it as a pedagogically useful tool, they must be confident and competent with the technology they are planning to use". As a consequence, it is essential that instructors have in mind both technology and pedagogy when designing their course content and assignments for Moodle LMS delivery. The above research findings indicate that training and support is absolutely essential if instructors are expected to develop and implement blended learning system (MOODLE with F2F learning environment) as powerful learning tools (Nelson, 2003 cited in Vovides et al, 2007). The present study has thus considered carefully the training of academics (lecturers) in: 1) the pedagogical principles in the design of Moodle; 2) online course (Moodle) design and development; and 3) how to effectively use Moodle with F2F teaching and learning as a critical component.

2.3 Lecturers' and students attitudes towards Moodle as a teaching and learning tool.

Findings indicated that students who used Moodle found it useful and helpful in their learning process. They have recommended students and lecturers to use it. Although there are some issues regarding accessibility, affordability and connectivity to the Internet, in general the students' experiences are consistent with the factors of innovation adoption (Rogers, 1995) and the motivation to use new learning tools (Clayton et al., 2010). There is no reason why students should not adopt Moodle as one of new innovations in learning tools. Although our approach in the study is qualitative, the results are consistent with the quantitative approach as in Martin-Blas and Serrano-Fernandez (2009).

Despite the evidence of positive experience among students, there is a resistance among lecturers to use Moodle. The usual reason is that Moodle means more work for the lecturers. It is because Moodle is a web-based application which means that students may contact lecturers any time during the day. Lecturers may find this annoying when they have other commitments to attend to. Kirkup and Kirkwood (2005) reported that tutors found it time-

consuming and ponderous to use e-learning tools in learning and teaching. However, lecturers at the UM are required to put learning and teaching materials in Moodle.

Blin and Munro (2008) suggested that the use of Moodle at Dublin City University, Ireland (DCU) has little disruption of teaching practices. This is because Moodle is mainly used for administrative purposes, disseminate resources or information and to complement or replicate existing practices. Furthermore, the operating of Moodle, such as planning learning activities, uploading learning materials, etc., is not burdened to lecturers only but is supported by team of lecturers and technical staff. It could be another reason why there is lack of resistance to new technology such as Moodle at DCU. Taking cue from DCU's experience, it is recommended that the management of UM to undertake similar approach in order to reduce resistance from lecturers. The resistance from lecturers could also be approached by giving additional training, technical and pedagogical support, introducing of feedback loop and career incentives (de Freitas and Oliver, 2005).

Nevertheless, the exercise of incorporating greater online learning activities among HEIs should be taken with cautious. Some students prefer direct interaction with lecturers which has the elements of spontaneous, immediate feedback and relationship with other students (Clayton et al., 2010). Moreover, e-learning requires more maturity and self-discipline from students than traditional classroom (Zhang et al., 2004). In other words, e-learning is not everyone's cup of tea.

2.4 Challenges lecturers and students face in dealing with Moodle as a teaching and learning tool.

Recent studies has shown that there are challenges in incorporating e- learning in the teaching and learning process this is because everyone has their own learning style along with their cultural influences as allured to by (Sywelem et al., 2012). Additionally, Zapalska and Brozik, (2006) states that when students have a strong preference to a particular learning style it becomes impossible for them to learn if materials and resources are not delivered using particular methods. The other challenge for academics in an e-learning environment, is the understanding of the different learning styles of different student for better learning outcome

In reviewing e-learning literature there are various criticisms of the quality of the e-learning systems currently being used? Issues that have been raised include: usability problems, bad performance, institutions being unable to customise according to their requirements and

sometimes criticised for having a teacher centred system rather than learner centred system (Chua and Dyson, 2004)

Banning (2005) states that the other challenge is due to the Socratic method which is heavily student oriented learning so students are able to think independently and various strategies can be used by academic such as quizzes, discussion, strong group work sessions with strong emphasis on communicating with peers, self-assessment and research for the purpose of making student critical thinkers however, not all students are able to reach this position of critical thinking without proper guidance, encouragement and nurturing.

As e-learning is currently wide spreading, institutions are not well equipped technically to handle developments of materials and delivering online modules are hampering progress and they require extensive skills (Ellis O'Reilly and Debreceeny, 1998).

There is also training challenge, training challenge refers to the training requirement that will enable academics to learn e-learning features and functions correctly and to use them effectively. A case study conducted by Miihhailova (2006) aimed to find out some of the challenges faced by lecturers who were trailing e-learning technology in an Estonian University which concentrated on ten interviews conducted with lecturers and found that time management was complicated as answering queries or preparing lecture notes took longer than expected and there was no compensation system or clarity in pay for the lecturers.

Academics in the United Kingdom (UK) are finding it difficult to keep pace with postings in the discussion board and forums. The volume of traffic on the forum affected the time needed to keep up to date, causing academics sometimes to skim over posted (Cornelius and Macdonald, 2008). They also found that other academics that are persistent about checking every posting became selective when traffic increases.

Other researchers such as Conrad (2004) have stated that e-learning becomes 30% more time consuming for academics than traditional classroom teaching not just due to the increase in working hours but also academics effort increase by 14% to teach effectively (Tomei, 2006).

Another study conducted by Hamilton (2009) stated that the challenges associated with using Moodle as part blended learning are that instructors (lecturers) may not want to use Moodle or they do not have enough time to learn new innovation or they have less knowledge in technology. Class size, lack of training, cost of it equipment, technology failure and there are

students who do not want to take part, all these can have a negative impact on the use of Moodle in education.

Other challenges were seen by Silberman (2013) is that of having too many e-mails, difficulty in deleting news forums and lastly lack of flexibility with the software. It was established that some users find Moodle to be tech heavy where as others think the interface is a little chunky. The primary issue with Moodle does not just revolve around how it is used but also how easy it is to accomplish certain tasks. These challenges are not just faced by users (students) but some professors at certain universities have been vocal about the difficulty with Moodle, proving that even those who are experts in today's industry have problems.

A study carried out by Welzer (2010) showed that 16.18% of students reported some technical issues when using the platform, which were mainly caused by hardware and software limitations of the employed servers causing issues such as connection problems, slow response in case of many users connected to Moodle, difficulties when opening or downloading specific types of files in certain browsers.

Lack of digital literacy and modernisation of studies with choosing and integrating different information and communication technologies are other challenges that were identified by (Vronska, 2012) in previous studies concerned with virtual learning environment (VLE) in higher education institutions carried out at Latvia and Lithuania.

CHAPTER THREE

METHODOLOGY

3.0 Overview

This chapter of the research presented the methods, techniques and tools that were used to conduct the research. It also described the research design and specifies, data collection, sampling methods, study site and study population, sample size, data collection tools, data analysis and ethical consideration that explored the effectiveness of Moodle as a teaching and learning tool between lecturers and students. The University of Zambia is situated along the Great East Road. The sample size consisted of 100 students, 50 males and 50 female students.

3.1 Research design

The Research Design that was used is the Mixed Methods design. This is because it involved both qualitative and quantitative research designs. The reason for combining the designs was to ensure that information obtained using one design was complimented by the other in terms of the type and quality of information to be collected

3.2 Data collection

A self-administered questionnaire was used to collect data; this is because the research was dealing with a literate population. Most of the questions in the questionnaires were open-ended. This helped to permit short responses making it easier to compare responses across respondents. It made analysis of data easier especially where, as the case in this research a quantitative approach of analysing data was employed. However, where necessary, open-ended questions were used in order to clarify on certain issues. The respondents will be allowed to answer questions at their convenient time and in an anonymous way ensuring honest of responses and confidentiality.

3.3 Sampling methods

The sampling methods that were used to select people mentioned in the sample size was purposive sampling for the informants, and probability sampling methods for the respondents. Simple random sampling method was used in selecting the lecturers at the University of Zambia in the sense that every lecturer had an equal chance of being selected and also because there was no biasness for the purpose of this research. Probability methods

was used for every University of Zambia student and lecturers; this means that every student may have an equal chance to be potential respondents, as they are all service beneficiaries.

3.4 Study site and study population

The University of Zambia (UNZA) is a Public University located in Lusaka Zambia. It is Zambia's largest learning institution. UNZA was established in 1964 and officially opened to the public on 12th July 1966 and is situated on the south side of the Great East Road about nine (9) kilometres from the city Centre in Lusaka. The university began with three schools namely School of Education, School of Humanities and Social Sciences and also The School of Natural Science. As the facility developed and when needed, new schools were introduced namely School of Agricultural Sciences, School of Engineering, School of Law, School of Mines, School of Medicine, School of Veterinarian Medicine and Graduate School of Business, in addition to the already existing schools. It is the oldest public University in Zambia. The language of instruction used at the university is English. Its main campus is located along Great East road about 7 kilometres from the central business district. It also has the Ridgeway campus within Lusaka city located at the University Teaching Hospital, a campus that houses students pursuing medical and pharmacological courses.

The target population encompassed both students (male and female) and lecturers at The University of Zambia of various cultural backgrounds under different schools. This category of students was chosen because they possessed the required characteristics needed for the study. According to (Chibale, 2017) in the Lusaka times published on the 10th of February, 2017, the study population (UNZA) population is estimated around about 30,000 students.

3.5 Sample size

The sample size consisted of 100 students (50 males and 50 females). This was because the data derived from the study was able to be generalized to both sexes. To select the sample, probability sampling was used, specifically the Stratified Random Sampling. According to Business in Economics and Statistics, The Stratified Sampling refers to a method of sampling that involves the division of a population into smaller groups known as strata. The strata was based on member's shared attributes or characteristics. In this case, the strata was based on sex. In addition to the selected students, the sample included 15 lecturers that was generated using a probability sampling method called the simple random sampling. The simple random

sampling was used by randomly selecting lecturers at the University of Zambia that had the necessary information and service for the purpose of this research.

3.6 Data collection tools

3.6.0 INTERVIEW GUIDE

An interview guide was used to collect data from target groups, consisting of fifteen (15) lecturers. It allowed respondents to give their answers in their own words, thereby providing detailed answers on the topic. It furthermore allowed the researcher to obtain clarification on any response. The interviewer could moreover probe for more information on any previously unconsidered insights that were raised in the discussion. This level of detail was necessary because this was a qualitative research as well as a case study. The guide also prevented the discussion from diverting from the topic by focusing on the important issues of the subject at hand.

3.6.1 QUESTIONNAIRE

A researcher administered questionnaire was used addressing each of the specific objectives given above. It had both closed ended and open ended questions. Closed ended questions were used in capturing information that processed and expressed quantitatively. Open ended questions were used in obtaining respondent views on matters given in the objectives which were later analysed by qualitative methods. The advantage of these is that subjects freely expressed themselves in their own words and greater detail and clarity was obtained using the follow-up questions. Since this was a qualitative study, these questions were more suitable than closed ended questions.

3.7 Data analysis

The study employed the thematic analysis technique to analyse data. Under this technique, points taken or recorded contained all the interviews or interviewee's views transcribed from audio into written format. Similar responses or ideas were grouped and analysed to create meaning which was generalized. The data which was collected from questionnaires was first checked for uniformity, consistency and accuracy. The raw data collected was subjected to coding, and then feed into the computer. The data entry was done using MS-Excel and then exported to Statistical Package for Social Sciences (SPSS), which was used for analysis of data. This package helped in the analysis of quantitative data. Other open-ended questions in

the questionnaires were analysed manually. The results from the questionnaires, after being analysed were presented in various media such as tables, and charts and this made the interpretation of data simpler.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter consists of data that was collected using the questionnaires and interview guide respectively. The data was further analysed using Statistical Package for Social Sciences (SPSS) and presented in form of pie chart, bar graph and reader tables. Additionally, the analysed data was interpreted.

QUESTIONNAIRE

4.1 SECTION A: Demographic and Background Information of Respondents

4.1.1 GENDER

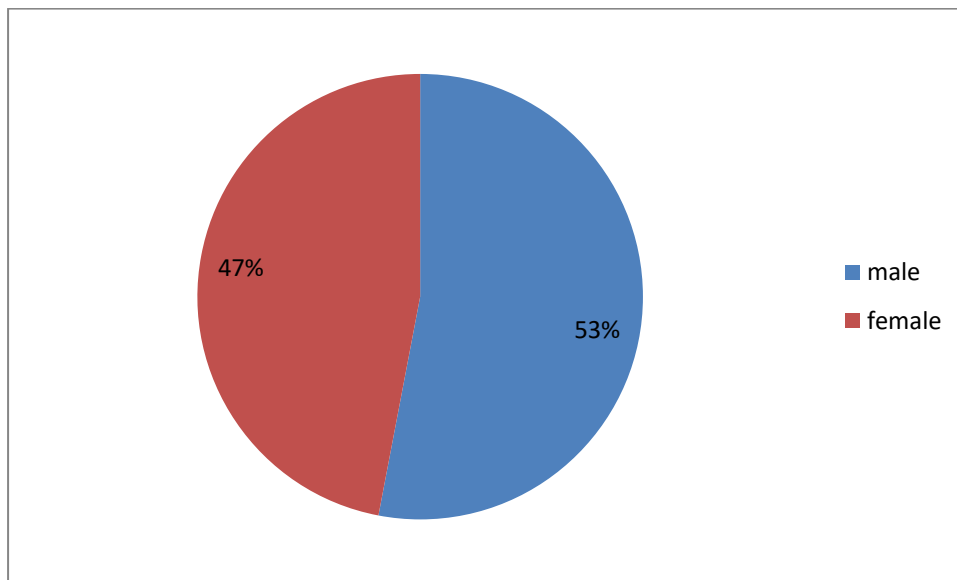


Fig 1

Figure 4.1.1 below shows the gender distribution of respondents in the survey. Almost two-third (53 percent) of the respondents were male, while slightly above one-third (47 percent) of the respondents were female.

4.1.2 Age distribution

Table 4.1.2 below shows the distribution of respondents in age. 35 percent of the respondents in the survey were in the age group of 17-21, while 29 percent of the respondents were in the age group 22-26 while 25 percent of the population were between the ages of 32-36 and lastly 11 percent were in the ages of 17-25 .

Age	Frequency	Percent
17-21	11	11
22-26	35	35
27-31	29	29
32-36	25	25
Total	100	100

4.1.3 SCHOOL

Table 4.1.3 below shows the school to which the respondents that took part in the survey belong. Of the total respondents slightly below half (36 percent) of the respondents were students from the school of education. 14 percent of the respondents were students of the school of humanities and social science, the other 14 percent were students from the school of veterinary medicine and 11 percent of respondents were students from Natural sciences, the other 10 percent were from food science and nutrition. Furthermore, 9 percent of respondent were students from the school of agriculture and the last group of respondents who represented 6 percent were from school of engineering.

School	Frequency	Percent
Education	36	36
Humanity and Social Sciences	14	14
Natural Sciences	11	11
Engineering	6	6
Agriculture	9	9
Food and Nutrition	10	10
Veterinary Medicine	14	14

Total	100	100
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4.1.4 MODE OF STUDY

Table 4.1.4 below shows the mode of study of respondents that took part in the survey. Of the total respondents slightly above half (56 percent) of the respondents were full time students, while 19 of the respondents were parallel students. 18 percent of the respondent's where part-time students and 7 percent of respondents represented distance students.

Model of School	Frequency	Percent
Full time	56	56
Parallel	19	19
Part time	18	18
Distance	7	7
Total	100	100

4.1.5. What do you know about Moodle?

Table 4.1.5 shows the number of respondents on what they knew about Moodle. According to the study a total number of 100 respondents took part in the survey, 32% of the respondents established that it is an online site for sharing materials, information and charting, while slightly above quarter (38 Percent) of the respondents agreed that it is a software and 30% of the respondents believed it is an E-learning resource website.

Knowledge of Moodle Account	Frequency	Percent
It is an online site for sharing materials, information and charting	32	32
It is a software	38	38

It is an E- learning resource website	30	30
Total	100	100

4.1.6 How is Moodle used as a learning tool?

Table 4.1.6 below shows the distribution of respondents according to how Moodle is used as a learning tool. According to the survey, of a total number of 100 respondents 3.2% ascertained that Moodle is used by sharing learning materials, while 17% of the respondents agreed that it is used through interactions between the students and lecturers and the remaining 32% agreed that it is used through both responses given by other respondents.

How Moodle is used as a learning tool	Frequency	Percent
By sharing learning materials through Moodle	32	32
Lecture notes are sent	17	17
Interaction between a student and the lecturers	19	19
All of the above	32	32
Total	100	100

4.1.7 How effective is Moodle?

Table 4.1.7 below shows the distribution of respondents according to how effective Moodle is. According to the responses, a total number of 100 respondents took part in the survey and of the 100 respondents, slightly higher than half (55 percent) said Moodle is not effective

because people are not familiar with it. While 45 % of the respondents agreed that Moodle is very reliable because it is convenient and fast.

Effectiveness of Moodle	Frequency	Percent
Not effective because people are not familiar with it, hence very slow.	55	55
Very reliable because it is convenient and fast	45	45
Total	100	100

4.1.8 How reliable is Moodle as a learning tool at The University of Zambia?

Table 4.1.8 below shows the distribution of respondents according to how reliable Moodle is as a learning tool at UNZA. 29% of the respondents said it was not reliable while 7% of the respondents said it was reliable. 27% of the respondents said it was very unreliable while 29% of the respondents said it was very reliable while others said it was moderately reliable and these made 8% of the respondents.

Reliability of Moodle at UNZA	Frequency	Percent
Not reliable	29	29
Reliable	7	7
Very unreliable	27	27
Very reliable	29	29

Moderately reliable	8	8
Total	100	100

4.1.9 Explain your answer in question 8

Table 4.1.9 below shows the distribution of respondent's explanations to responses given on how reliable Moodle is? Of the respondents that said it was not reliable the following were there reasons. 35% said it was because of network problems while 21% said because of information not being conveyed explicitly in the way it can in the classroom while 44% of the respondents said it was reliable because it was fast.

Explain your answer in Q8	Frequency	Percent
It is not reliable because of the network problems	35	35
It is reliable because it is fast	44	44
Not reliable because information cannot be conveyed explicitly in the way it can in a classroom	21	21
Total	100	100

4.2.0 How do you perceive the attitude towards Moodle as a learning tool?

Table 4.2.0 below shows the distribution of respondent's attitudes towards Moodle. 25% of the respondents said people are not comfortable with the system while 50% of the respondents said their attitude was bad and 25% of the respondents said their attitude was good because it was liked and used by those that are familiar with it only.

Attitude towards Moodle as a learning tool	Frequency	Percent
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People are not comfortable with the system	25	25
Bad	50	50
It is liked and used by those that are familiar with it only	25	25
Total	100	100

4.2.1 Explain your answer in question 10?

Table 4.2.1 shows the distribution of respondent's explanations of how they perceived the attitude towards Moodle as a learning tool. 33% of the respondents said it was because people fail to access it and use it while 43% said because people are comfortable with the traditional ways of learning and 24% said here is no awareness to educate people on what Moodle is and how it is used

Explanation of Q10	Frequency	Percent
People fail to access it and use it	33	33
Because people are comfortable with the traditional ways of learning	43	43
There is no awareness to educate people on what Moodle is and how it is used	24	24
Total	100	100

4.2.2 What challenges do you face in using Moodle as a student?

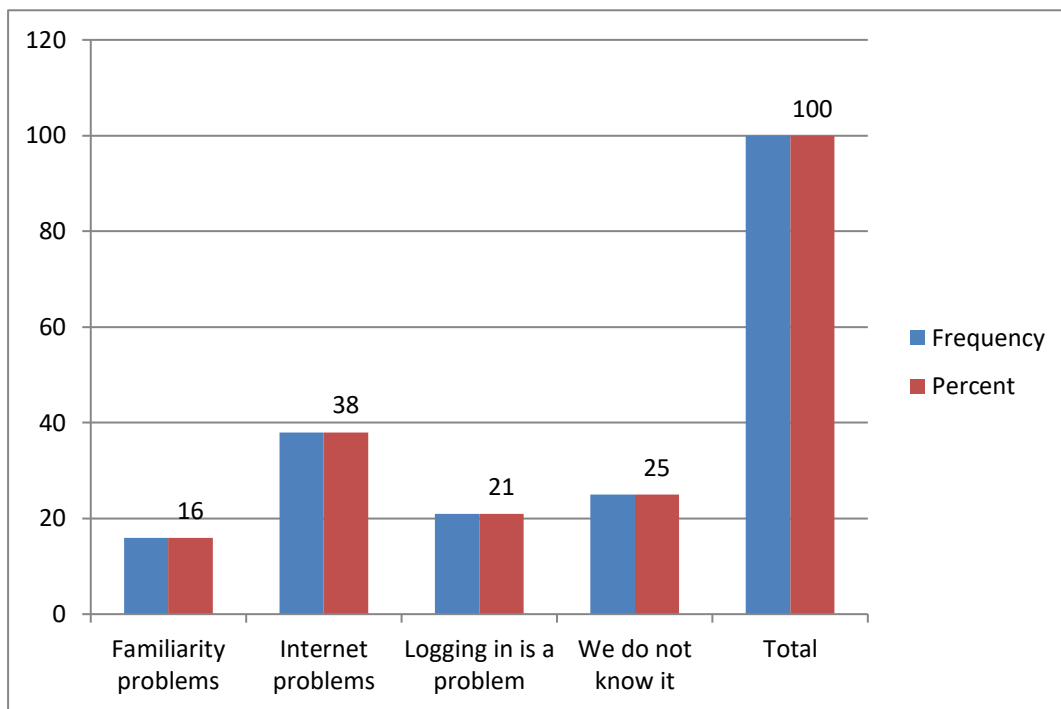


Fig 2

Figure 4.2.2 above show the number of respondents that participated in this particular measure. Slightly above quarter (38 percent) said they faced challenges of internet problem when using Moodle. 25 percent of the respondents said they were not aware of it thus posed a challenge, 21 percent said the challenge they faced when using Moodle was related to the logging in issues and lastly familiarity problem was the other challenge faced when using Moodle and this was represented by 16 percent of the respondent

4.2.3 Would you recommend using Moodle?

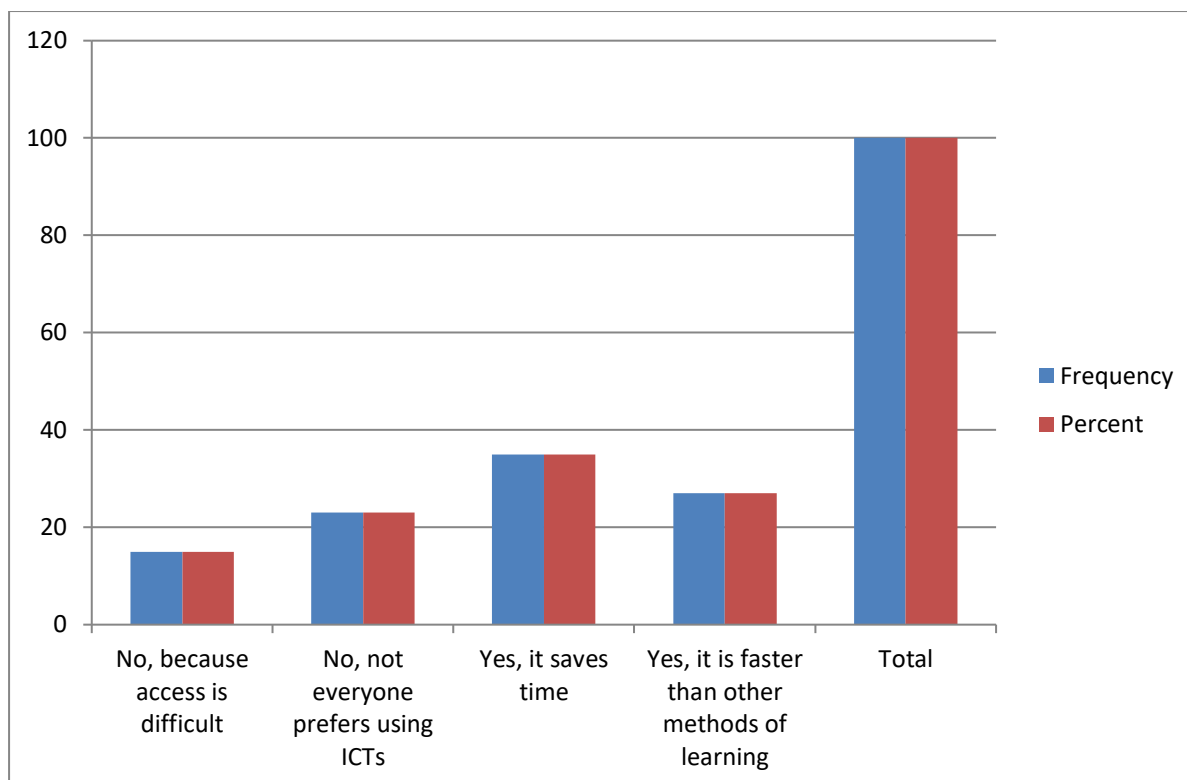


Fig 3

Figure 4.2.3 above show the number of respondents that participated in this particular measure. Slight above quarter (37 percent) said yes they would recommend Moodle because it saves time. 35 percent of the respondents said they would recommend the use of Moodle, reason being it was faster than other platforms for learning while 24 percent of the respondents said no they would not recommend Moodle because not every one preferred using ICTS the last group of represented by 16 percent of the respondents also said no they would not recommend Moodle because of difficult accessibility.

4.3.0 INTERVIEW GUIDE

4.3.1. What do you know about Moodle?

According to the responses collected of a total population of 15 lectures. 12 lecturers said that Moodle is an electronic platform through which lecturers and students interact, share notes and lecture voice clips, as well as assignments. Then 3 lecturers said they did not really know what Moodle was.

4.3.2 In your opinion, what is Moodle meant for?

According to the study conducted on the opinions of lecturers on what Moodle was meant for. The responses showed that 12 lecturers thought Moodle was meant for teaching and learning through voice notes, sharing of assignments and instructions on the assignments, announcements on class related issues and a medium of communication for clarity pertaining to class lessons, assignments and instructions. While the remaining 3 lectures had no idea on what it was used for.

4.3.3 How effective is Moodle as a teaching tool?

According to the responses obtained on the effectiveness of Moodle, 10 lecturers agreed that Moodle is an effective and fast medium for teaching and learning in most Universities. Then two lectures said it is not effective because most students are unfamiliar with it and some lecturers do not even know it and some of the lecturers do not know how to use it. While 3 lectures said they do not think it is effective because of people's lack of awareness of its very existence.

4.3.4 How is Moodle used as a tool for teaching?

Results obtained from the research showed that Most of the lecturers thought of Moodle as a tool for teaching in a way that it was used through the sharing of lectures through voice clips that explicitly explained lessons in the same way they were conducted in class. They also said Moodle was used in the question and answering of queries which facilitated learning.

4.3.5 As a lecturer what is your perception of Moodle as a teaching and learning tool?

According to the study undertaken, responses showed that all the lecturers had a perception of Moodle being a medium of communication that was portable or decentralised. Many lecturers especially those that were acquainted with it had a good attitude towards it as opposed to those who were not aware of it.

4.3.6 Is it possible/easy to make lessons for the learners?

The responses from the study showed that it was very possible and easy to make lessons for the learners when using Moodle and that it could be done from anywhere, it did not need the lecturer to be in class for lessons to happen.

4.3.7 Is it possible to upload share notes on Moodle?

According to the study undertaken, the responses showed that all the 15 lecturers thought it was only possible to upload and share notes between the lecturer and the students, the students and lecturers and that it was not possible for the students to share notes with each other because there was no provision for that kind of sharing or uploading.

4.3.8 Does Moodle encourage learning log, where students reflect on what they have learned?

According to the study undertaken, all the lectures attested that Moodle does not encourage students to know or reflect on what they have been taught, but instead their concentration is on doing the work and waiting for corrections and more instructions.

4.3.9 Is Moodle an effective project that will give educators the best tools to manage and promote learning?

According to the responses gathered from the study, it was observed that majority (14 lecturers) agreed that Moodle is an effective project that will give educators the best tools to manage and promote learning. While the minority (1 lecturer) disapproved of Moodle being an effective project that will give educators a good tool to manage and promote learning, because of the inconsistency of the creators of these platforms.

4.4.0 What challenges do you face as a lecturer in dealing with Moodle?

According to the study undertaken on the challenges that lecturers face when dealing with Moodle. 12 of the respondents out of a total of 15 said they faced challenges of unfamiliarity especially from the student's part. They also said they face challenges of network, which consumes time on the teaching and learning process. Then 3 of the lectures said the main challenge of dealing with Moodle was the lack of adequate information on how to effectively use Moodle.

4.4.1 Would you recommend the use or the continued use of Moodle as a teaching tool in tertiary institutions?

According to the research majority of the respondents (14 lecturers), strongly recommended the use or the continued use of Moodle as a teaching and learning tool in tertiary institutions. According to their reasons, they said it is a good communication media when appropriate measures are taken to make people aware of the medium. They also recommended the continued use of Moodle because they think it is faster to use, it can be used anywhere

provided there is internet, it can be used to address many students at the same time and at the same time address their needs despite the distance. While one lecturer disapproved the continued use of Moodle because it can bring about work load, considering the fact that students have a platform to query the lecturers, so it can bring unnecessary queries.

CHAPTER FIVE

DISCUSSING OF FINDINGS

5.0 Overview

This chapter discusses the findings presented in chapter four. The major findings are discussed under four (4) headings derived from the research objectives. This is meant to provide adequate answers to the objectives and realise the purpose of the study.

5.1 Use of Moodle as a teaching and learning tool.

From the study it was established that 32% of the respondents said that it was an online site for sharing materials, information and chatting, while slightly above quarter (38 Percent) of the respondents agreed that it was a software and 30% of the respondents believed it was an E-learning resource website. 3.2% of the respondents ascertained that Moodle was used by sharing learning materials, while 17% of the respondents agreed that it was used for interactions between the students and lecturers and the remaining 32% said that it was used for both responses given by other respondents. While when lecturers were asked, 12 lecturers said that Moodle is an electronic platform through which lecturers and students interact, share notes and lecture voice clips, as well as assignments, while 3 of the lecturers said they did not really know what Moodle was. From this when further asked about how it is used, 12 said it was used for lecturers and students interact, share notes and lecture voice clips, grade continuous assessment as well as assignments while the 3 were not sure.

5.1 Effectiveness of Moodle as a teaching and learning tool.

When students were asked about the effectiveness, slightly higher than half (55 percent) said Moodle is not effective because people are not familiar with it. While 45 % of the respondents agreed that Moodle was very reliable because it is convenient and fast .while for lecturers 10 said that Moodle it was an effective and fast medium for teaching and learning in most Universities, then 2 lectures said it was not effective because most students are unfamiliar with it and some lecturers do not even know it and some of the lecturers do not know how to use it. While 3 lectures said they do not think it was effective because of people's lack of awareness of its very existence.

5.3 Lecturers and a student's attitudes towards Moodle as a teaching and learning tool

The study showed that all lecturers had a perception of Moodle being a medium of communication that was portable or decentralized. This meant that the majority of lecturers appreciated Moodle as a tool of teaching and learning. Unfortunately, out of the total number of students only 25% of the students had a good attitude towards Moodle as a teaching and learning tool. This meant that majority 75% of the students were had a bad attitude towards Moodle. Students also justified the reasons for the attitude that people were comfortable with the traditional ways of accessing information and that Moodle was difficult to access due to the need for internet connectivity.

The study also showed that lecturers had a positive perception by saying was very possible and easy to make lessons for the learners when using Moodle and that it could be done from anywhere, it did not need the lecturer to be in class for lessons to happen. Nonetheless, few lecturers still had a bad attitude towards Moodle because they were not aware of what was all about.

5.4 challenges lecturers and students face in dealing with Moodle has a teaching and learning tool.

The study undertaken on the challenges lecturers face when dealing with Moodle showed that majority of the lecturers were not familiar with Moodle as a teaching and learning tool, while minority of the lecturers had a challenge of using Moodle because of the lack of adequate information on how would effectively use Moodle. While, students faced many challenges with using Moodle majority complained of its accessibility due to bad networks. Other students were not even aware of Moodle existence

CHAPTER SIX: RECOMMENDATION AND CONCLUSION

6.1 RECOMMENDATIONS

This study has proven that, in spite of all the advantages of using e-learning platforms we are still a long way from taking full advantage of them. Despite, Moodle offering students and lecturers the opportunity to part take in online activities such as assignments, scheduling, and quizzes. Most of them are unaware of all this and hence do not utilize it. The results of the study have therefore led to the following recommendations:

- More effort and time should be put in to educate both lecturers and students on the use of Moodle and how they can fully benefit from it. In addition, lecturers and students should also be well educated and trained on how to operate and access Moodle in order to reduce cases of failure to operate or use.
- Internet connectivity on campus should also be in abundance and cater for students at any time or place when they wish to access or use it; this reduces failure of use because of internet problems.
- Students most especially should be trained on the effective use of Moodle and the many benefits it has to offer. This might actually help to reduce the negative attitudes that students have towards the use of Moodle. This recommendation can be considered for future research since it requires time and additional resources to carry out all these activities.

6.2 CONCLUSION

Moodle is an e-learning platform used throughout the world. Universities, communities, schools and teachers use it to communicate and transmit information in educational communities. The great success of this platform is due to the fact that it is an open source system, providing programmers the opportunity to make new contributions, with new applications, making it one of the most widely used. The research was successfully conducted to collect valid information from the respondents of the University of Zambia, with a composition and good distribution of gender and age groups, the data that was collected was based on what the respondents understood about the effectiveness of Moodle as a teaching and learning tool at the University of Zambia. Furthermore, tables, pie charts and bar graph clearly illustrated the statistics and percentages on how the questionnaires were answered by

the respondents. It was found out that some students still have no knowledge on what Moodle really is and the purpose that it serves. Majority of the respondents considered Moodle not effective because people are not familiar with it, hence making it slow. Also, majority of the respondents' response on the attitude towards Moodle as a learning tool was scored as bad and the reason for this was because people are comfortable with traditional ways of learning. Despite all the limitations and lack of existing resource at different levels, such as difficulty in accessing the platform because the connections are very slow or that users cannot manage to access the internet, Moodle can still be deemed as a good platform for teaching and learning.

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APPENDICES

Appendix 1: Respondents questionnaire

SCHOOL OF EDUCATION

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

TOPIC: ASSESSING THE EFFECTIVENESS OF MOODLE AS A TEACHING AND LEARNING TOOL AT THE UNIVERSITY OF ZAMBIA.

INTRODUCTION

We are fourth year student at The University of Zambia in the school of education, studying Library and information science (LIS). As a requirement we are carrying out a research with an aim of assessing the effectiveness of Moodle as a teaching and learning tool at the University of Zambia. Therefore, we kindly ask for your unconditional support in answering the questionnaire. The survey should only take 5 minutes of your time and you are assured total confidentiality. Your sincere cooperation will be highly appreciated.

INSTRUCTIONS

1. Do not indicate your names on this paper
2. Tick to show your answer on multiple choice questions
3. Fill in the blank spaces where possible

SECTION A

Please tick where appropriate.

1) What gender are you?

a. Male []

b. Female []

2) How old are you?

a) 17-20 []

b) 20-25 []

- c) 25-30 []
- d) 30-35 []
- e) 35-40 []

Which school are you from?

- a) Education[]
- b) Humanities and social sciences[]
- c) Natural science[]
- d) Engineering[]
- e) Agriculture[]
- f) Food and nutrition []
- g) Vet[]

What is your mood of study?

Full time []

Parallel []

Part time []

Distance []

Section B

Please fill the blanks.

Section B

How Moodle is used as a learning tool.

Please fill the blanks.

5. What do you know about Moodle?

.....

.....

.....

6. How is Moodle used as a tool for learning?

.....
.....
.....

Effectiveness of Moodle

7. In your view, how effective is Moodle as a learning tool?

.....
.....
.....

8. In your view, do you think Moodle is a reliable tool for learning at the University?

.....
.....

9. Explain your answer in question 8?

.....
.....

Student attitudes towards Moodle

10. How do you perceive the attitude towards Moodle as a learning tool?

.....
.....

11. Explain your answer in question 10?

.....
.....

Challenges students face in dealing with Moodle as a learning tool.

12. What challenges do you face as a student dealing with Moodle?

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.....

.....

13. Would you recommend using Moodle as a learning tool? Explain your answer.

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Appendix 2: Interview guide for lecturers

We are the fourth year students at the University of Zambia studying library and information science in the school of education and we are carrying out a search on assessing the effectiveness of Moodle as a teaching and learning tool at the University of Zambia. Therefore, I kindly ask for a few minutes of your time and most importantly total confidentiality will be observed. Your cooperation will be highly appreciated. The questions to ask are as follows;

1. How effective is Moodle as a teaching tool
2. How is Moodle used as a tool for teaching?
3. As a lecturer what is your perception of Moodle as a teaching?
4. What challenges do you face as a lecturer in dealing with Moodle?
5. Is it possible/easy to make lessons for the learners?
6. Is it possible to upload share notes on Moodle?
7. Does Moodle encourage learning log, where students reflect on what they have learned?
8. Is Moodle an effective project that will give educators the best tools to manage and promote learning?
9. Would you recommend the use or the continued use of Moodle as a teaching tool in tertiary institutions?

Appendix 3: Time frame

S/N	ACTIVITIES	DATES	DURATION
1	PROPOSAL PREPARATION	9TH APRIL TO 29TH JUNE 2019	11 WEEKS
2	HANDING IN OF THE PROPOSAL	30TH JUNE 2019	1 DAY
3	DEVELOPING RESEARCH INSTRUMENTS	18th TO 25 TH JULY, 2019	5 DAYS
4	DATA COLLECTION	5 th AUGUST to 5 TH OCTOBER, 2019	9 WEEKS
5	DATA ANALYSIS	18 TH TO 22 ND NOVEMBER, 2019	5 DAYS
6	REPORT WRITING AND SUBMISSION	23 RD TO 29 TH NOVEMBER, 2019	7 DAYS

Appendix 4: Budget

Proposed Budget for Final Year Project

ITEM	QUANTITY	UNIT COST(in kwacha)	TOTAL COST (in kwacha)
Books	5	K10	K50
Ream of paper	1	K65	K65
Pens	5	K2	K10
Flash Disk	1	K90	K90
Printing and photocopying of questionnaire	120	K3	K360
Printing and photocopying of interview guide	8	K8	K64
Printing of proposal and binding	1(36pages plus 5 binding)	K41	K41
Printing of final report and binding	1(36pages plus k5 binding)	K41	K41
Total			K 721