AFRICA INTERNATIONAL UNIVERSITY

FACTORS INFLUENCING STUDENTS' PERCEPTION OF ONLINE COURSES AT AFRICA INTERNATIONAL UNIVERSITY

BY

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DECLARATION

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I declare that this is my original work and has not been submitted to any other College or University for academic credit

The views presented herein are not necessarily those of the Africa International University or the Examiners

(Signed):_____

Edward Aligula

July, 2018

ABSTRACT

The purpose of this study was to examine factors influencing students' perceptions of online courses at Africa International University. Literature reviewed explored the Christian worldview influencing e-learning, history of online courses, theories informing learning in the online space, best practices for online learning, and students' characteristics in relation to online courses as well as the challenges faced by students in the virtual environment. The exploration of these aspects aided in gaining in insights of the perceptions that students at the university have about online courses.

Factors influencing students' perceptions of online courses were exposed through a quantitative approach. A 5-point Likert scale questionnaire was used to gather data from the respondents. A total of 57 questionnaires out of 78 were administered to and obtained from the online students, which is 73% of the student response rate. Three null hypotheses were tested statistically using the data from the respondents. $H_0$1: There is no significant relationship between best practices and students' perceptions of online courses. $H_0$2: There is no significant correlation between best student characteristics and students' perception of online courses. $H_0$3: Challenges faced by students in online courses do not affect their perception of online courses. Students' level of satisfaction was used as a proxy for their perception of online courses. A composite mean score was computed for each independent variable which was then correlated with students' level of satisfaction.

The findings of the study confirmed with, statistical significance, there was a significant relationship between best practices and students' perception of online learning. In addition, the results showed that there was a significant correlation between student characteristics and their perception of online courses. Also, the findings evidenced that the challenges faced by students online do not affect their perception of online courses.

Therefore, these findings assisted to generate recommendations to help the online instructors at Africa International University and institutions of similar context. The researcher suggested the need of regular workshops to train to equip the instructors with the best practices for online courses. The researcher suggested the need of for regular evaluation of the online courses for future improvement. The research also proposed to the university acquire reliable infrastructure related to online learning, especially the internet. The researcher proposes a similar study be conduct in both private and public universities in Kenya so as to have a larger sample whose results can be generalised to the said tertiary contexts.

DEDICATION

To my beloved family

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My special gratitude goes to the Almighty God who has enabled me to accomplish this work. I am thankful to all the colleagues, friends and family for their invaluable support throughout this educational achievement. This work would not have been possible without Fredrick and Valerie Trexler who have been supportive of my career goals especially through prayers and encouragement. I am especially indebted to my thesis supervisors who Dr. Rosemary Mbogo and Dr. Joash Mutua for their professional guidance and for fortifying me at time when I felt wedged. I would like to particularly thank Dr. Rosemary for her patience in training me how to conduct an empirical research.

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Finally, more important during the pursuit of this study is my family; my beloved and supportive wife, Joyce and my children, Barbara and Yuri – the joy of my heart.

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ABBREVIATIONS AND ACRONYMS

AIU: Africa International University

FAQs: Frequently Asked Questions

ICT: Information and Communication Technology

IERB: Institutional Ethical Review Board

MS: Microsoft

PDFs: Protected Document Formats

PPT: PowerPoint

RQ: Research Question

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CHAPTER 1

INTRODUCTION

In this 21st century, there are vast advancements in Information and Communication Technology (ICT) globally. Currently, universities are swift to integrate technologies in the education in response to the upsurge of technology in the contemporary society. From analysis of the emerging trends, it is evident digitalization of education is taking a vigorous course. This chapter therefore presents the background of the study, the problem statement, the rationale of the study, the significance of study, the purpose, the research objectives, the research questions, the hypotheses and the definition of key terms.

Background of the Study

It is noticeable that the world's economy has continued to dwindle across the ages, cases of unemployment are rising and there is dire need for individuals to find skills that are pertinent for them to become more employable. The available opportunities locally, regionally, nationally and internationally only favour those who embrace lifelong learning influenced by the emerging technologies (de Freitas, Morgan, and Gibson 2015). Consequently, research shows that, individuals are now acquiring new skills and information by setting up technology improvements for learning in face-to-face, blended and fully online learning (i.e. Evans, Schoon and Weale 2013; Fallows and Steven 2013). Blended learning is when face-to-face interactions are coupled with online whereas fully online excludes the face-to-face elements.

Nations such as US, Brazil, India and China are experiencing enormous students' enrolments numbering in the hundreds of thousands. The report which indicate that there are over 30 million students in the universities take one or more of their classes online in the world, as of August 2012. The atmosphere is similar in online higher education enrolments in Africa. For instance, the present traditional classrooms of universities in Nigeria can contain up to 400,000 students a year, though 1.6 million prospective students seek admission year. The Nigerian government therefore aims at further increase of the students' enrolments in two years by making use of online learning (Adkins 2013). Online learning is now seen as the only workable way to meet the demand for higher education not only in Nigeria but also in a country such as Kenya.

Recent studies indicate that demand for online learning is continuing to grow. Like in America the percentage of student online enrolment in universities rose from 9.6% to 33.5% between 2002 and 2012. Notably, this was a 16.1% growth signifying a rise of 1.6 million students to 7.1 million students who were doing at least one online class (Allen & Seaman 2014). Even though the number of students enrolment is still rising, Rudestam and Schoenholtz-Read argue that it is unlikely that more institutions will prefer online learning (Rudestam and Schoenholtz-Read 2010, 10) which implies there are challenges in online education of which the African continent also faces.

The speedy pace of enrolling online students in the American context seems like what is happening in Africa hence exerting myriad challenges on the education sector. In trying to address the challenges, institutions of higher learning in Africa are opting for Online Distance e-Learning (ODeL). Based on the fact that Africa is still a Developing World, ODeL is regarded as a feasible and cost-effective way of getting

education. This model of educational delivery is becoming economical, but its quality is still questionable (Pityana 2009).

As of July to August, 2007, Kenya did a nationwide consultation involving the government, Kenya's private sector, civil society and universities. As a result, the Kenya Vision 2030 was established as the country's new development blueprint to be manifest as from the year 2008 and to be fully achieved by 2030. An aspect of interest to this research, is that of the education goals of the Vision 2030. It is recorded that as of 2012, educating and training Kenyan citizens will:

> provide *a globally competitive quality education, training and research for development*. The overall goal for 2012 is to reduce illiteracy by increasing access to education, improving the transition rate from primary to secondary schools, and raising the quality and relevance of education. Other goals include the integration of all special needs education into learning and training institutions, achieving 80% adult literacy rate, increasing the net enrolment rate to 95%, increase the transition rates to technical institutions and universities from 3% to 8%. Kenya aims at expanding access to university education from 4.6% to 20%, with an emphasis on science and technology courses. The specific strategies will involve: (i) integrating early childhood into primary education; (ii) reforming secondary curricula; (iii) modernizing teacher training; and (iv) strengthening partnerships with the private sector. Kenya will also develop key programs for learners with special needs, rejuvenate ongoing adult training programmes, and revise the curriculum for university and technical institutes. In partnership with the private sector, the Government will also increase funding to enable all these institutions to support activities envisaged under the economic pillar" (NESC 2007, 11-12).

The above excerpt captures the needs of Kenyans and the way to go as far as education is concerned. An additional observation is that, as of 2012, one of the government's flagship projects was to "to establish a computer supply program that will equip students with modern IT skills" (NESC 2007, 12) thus, the integration of current technologies such as the computer and the internet into Kenya's education. Also, under Science, Technology and Innovation (STI), Kenya Vision 2030 stipulates that:

> … all the strategies and flagship projects will exploit knowledge in science, technology and innovation (STI) in order to function more efficiently, improve

> social welfare, and also promote democratic governance. STI can and will be applied in all the lead sectors. The education and training curricula in the country will, therefore, be modified to ensure that the creation, adoption, adaptation and usage of knowledge becomes part of formal instruction. A new incentive structure will be developed to support the use of STI in specialised research centers, universities as well as in business firms and in agriculture (NESC 2007, 18).

There are several studies done on e-readiness in schools and universities, learner satisfaction and perceived challenges faced in online courses (Hadullo 2010; Nyagorm 2014; Maina and Nzuki 2015; Ndigirigi 2012; Muuro et al 2014; Wamae 2011) focusing on open distance and e-learning (ODeL) in Kenya's. Muuro et al. (2014) discovered the drawbacks evident from a research conduct in two public universities in Kenya. The prominent challenges range from scarcity of e-learning resources, dissatisfaction by a large number of students (90.8%) and dissatisfaction by online instructors (85.6%) on how the online courses are organised and delivered (Nyerere, Gravenir & Mse 2012).

The challenge is evident that Kenya has no option but to acquire skills and knowledge in and through technology especially in the universities which serve as the bridge to the real world of experience. They need to go beyond the curve to implement and help students to explore the said technologies and innovations. In fact, apart from the roll out of laptops by the Government of Kenya to standard one primary school pupils, universities in Kenya have exhibited a significant progress in adopting and exploring the current technologies. Learning has become affordable and more flexible considering time and distance. A reasonable number of universities are now offering both face-to-face and online classes. However, even though the Government of Kenya and universities in Kenya have geared their efforts in making online learning a success, there are several factors influencing students' perceptions of the online courses. This study therefore investigated the varied perceptions among students at Africa International University (AIU).

Problem Statement

In Kenya, universities are adopting online courses that demonstrate the usage of the evolving technologies. These universities are expected to satisfy the needs and expectations of their learners. In similar vein, online instructors work behind the scenes to ensure that learning in the online environment takes place. Normally, students view online instructors as experts in their field of teaching who have the necessary training that will benefit them. Rodriguez et al. (2008) are of the view that stable enrolment in higher education will be prejudiced by the learning practices and perceptions of students in an online environment. Given students within the African context are used to traditional (face-to-face) classes, numerous perspectives may rise regarding the quality of online courses. Specifically, students are likely to have varied thoughts on the nature of online courses, for example, perceptions about the online course design, methods used in the delivery of the online courses, online learning activities, instructor feedback and other related happenings.

Several questions have emerged regarding the nature of online courses being offered to students (Song, Hill, and Koh 2004). These questions include: How do students perceive online courses? What enhances students' success in online learning? What can be improved to engage students more in online learning? These are just a few of the questions that recur and unless they are addressed the future of online education is disconcerted. Therefore, this research examined the factors influencing students' perceptions of students about the online courses at Africa International University that might support online learning practices in the future.

Rationale of the Study

The study was worth conducting because it adds new perspectives to the existing literature. Next, since most of the literature is from outside Africa, the study

will help to fill the gap in the limited research conducted in the African context, especially Kenya. Subsequently, the study will provide universities with justifiable reasons as to why they should invest more in the Open and Distance e-Learning (ODeL). Lastly, the study proposes areas for further research in the online learning.

Significance of the Study

Primarily, the study will be important to AIU, especially in strategizing on how to attract more online students. In addition, the study will help instructors in regard to what they should consider when preparing online courses. Also, the recommendations from the study will assist the online course designers to craft courses in a manner that cater for the students' needs and expectations. Moreover, the findings from the study will help AIU to gauge its strengths and weaknesses in the matters of online learning. Last but not least, this study is going to be resourceful for future researchers in the scope of e-learning. Lastly, the study will aid practitioners and policy makers to appreciate in depth, the factors influencing students' perceptions of online courses.

Purpose of the Study

The central purpose of the study was to examine the factors influencing students' perceptions of online courses at Africa International University. The investigation of the factors influencing students' perceptions provides useful insights on online learning.

Objectives of Study

The objectives of this study were in three folds:

1. To examine the influence of online best practices on students' perceptions of online courses.

2. To investigate the influence of best student characteristics on students' perceptions of online courses.
3. To evaluate the extent to which challenges faced by students in online courses influence their perceptions of online courses.

Research Questions

The following three research questions provided an orientation for the remaining chapters of the study:

1. In what ways do online best practices influence students' perceptions of online courses?
2. How do best student characteristics influence students' perceptions of online courses?
3. To what extent do challenges faced by students in online courses influence their perceptions of online courses?

Hypotheses

Hypotheses serve as a proposed answer to the research problem (Hoy 2010, 68). A hypothesis is "a tentative explanation that accounts for a set of facts and can be tested by further investigation" (Muijis 2011, 13). Since this was a quantitative study, the researcher incorporated hypotheses which were tested using statistical procedures (Ary et. al., 2006, 108-109). In light of this, the study had the following null hypotheses that were tested statistically using the data from the respondents.

$H_0$1: There is no significant relationship between best practices and students' perceptions of online courses.

$H_0$2: There is no significant correlation between best student characteristics and students' perceptions of online courses.

$H_0$3: Challenges faced by students in online courses do not affect their perceptions of online courses.

Limitations

Limitations indicate the anticipated challenges to accomplish the study (Kombo and Tromp 2006, 49). Primarily, because the study focused on students from a private Christian university, AIU. The experiences of other students in similar circumstances may vary, hence a limitation to this study. In addition, the researcher experienced delays in retrieving the data from the respondents. The researcher worked with the retrieved data at hand. Also, based on the considerable size of the sample in at AIU the findings may be suggestive to other universities in similar context. Nonetheless, the findings might not favour universities that do not possess similar characteristics of AIU.

Delimitations

Delimitations calls for setting of parameters for the study by determining the characteristics in focus (Mugenda 2008, 149). The researcher was interested in examining students' perceptions towards online courses in a private university in Nairobi. The researcher was aware that there is also traditional form (face-to-face) courses where student perceptions could be investigated, but this study concentrated on students taking online courses. Also, the researcher acknowledges the existence of various public and private universities in the 47 counties of Kenya. Given the limited time, funds and tools, the researcher chose to restrict his study to AIU.

Definition of Terminologies

There is need to understand the operational terminologies as follows:

Distance learning: Distance learning is "planned learning that normally occurs in a different place from teaching and as a result, requires special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements" (Moore & Kearsley 1996, 2).

E-learning: E-learning generally means the approaches of learning which where the instructor delivers learning content over the internet. It is sometimes referring to as, "Web-based or online learning" (Trombley & Lee 2002).

Online courses: Operationally in this study, online courses refer to courses delivered to students via the open and distance e-leaning (ODeL) platform. This is where learning happens over Internet, where students engage in computer-generated discussions with an online instructor and other students, and the submission of coursework and receipt of feedback is done electronically (Laaser 2011).

Online learning: Patti Shank and Amy Sitze first define learning and then online learning. According to them, "… learning is the process of constructing knowledge" (Shank & Sitze 2004, 22) whereas "online learning is a form of distance learning that uses network technologies, most commonly the Internet or an intranet" (Shank & Sitze 2004, 39).

Students' perceptions: The researcher has operationalised students' perceptions to refer to the attitudes and experiences of the online learners.

Conceptual Framework

A conceptual framework is an instrument that helps a researcher to create cognizance of a matter under investigation (Guba & Lincoln 1989). Also "a conceptual framework is a written or visual presentation that explains either graphically, or in narrative form, the main things to be studied – the key factors,

concepts or variables and the presumed relationships among them" (Miles & Huberman 1994, 18). The following conceptual framework provides the variables for the entire study rooted in literature. It also helps to gather and analyse participants' views. Kjell Rudestam and Judith Schoemanholtz-Read observe that "research on e-learning is one of the most frequently reviewed topics in distance education. Particularly important are the variables of interactivity, social presence, cognition and e-learning, and learning styles" (Rudestam and Judith 2010, 7). This implies that, for the study carried out there were several factors influencing the perceptions of students of online courses.

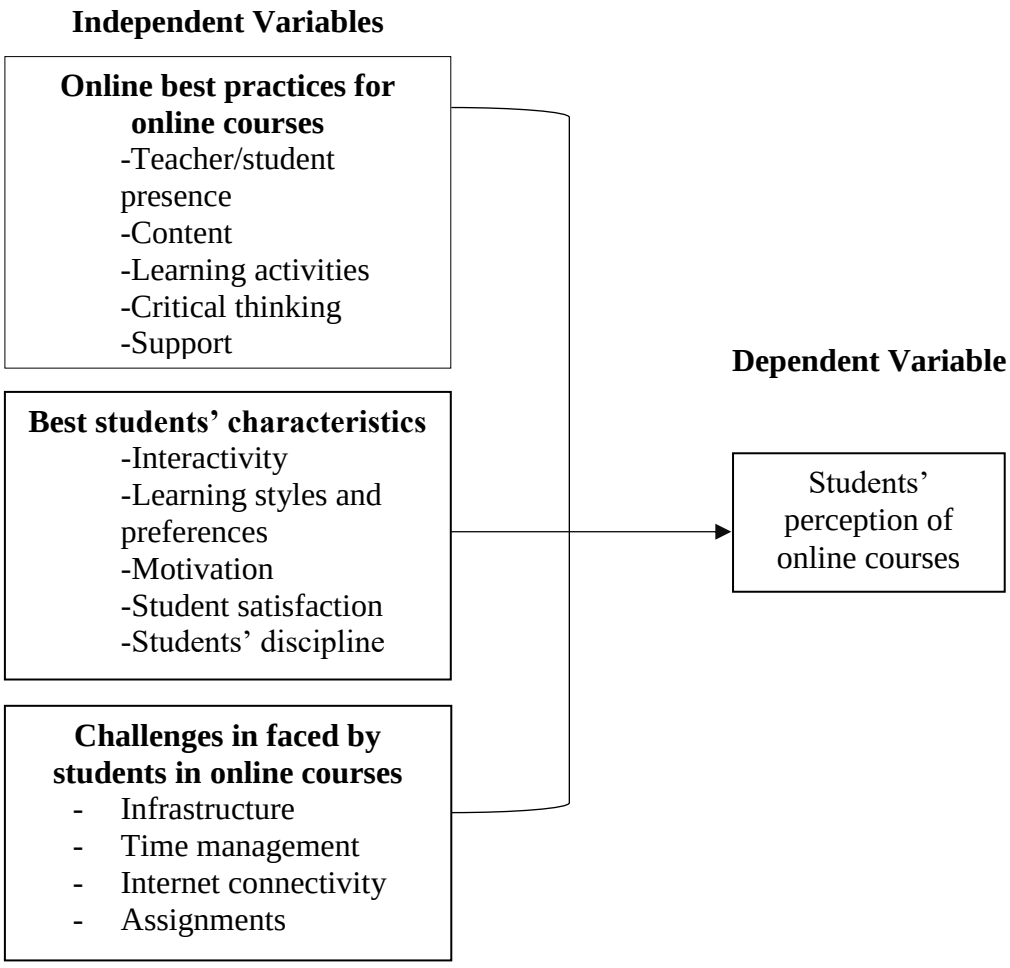


Figure 1: Conceptual framework

Summary

In summary, Chapter 1 has introduced the topic under investigation which is, Factors influencing students' perceptions of online courses at Africa International University. In Chapter 2, the researcher reviews related literature to the study.

CHAPTER 2

LITERATURE REVIEW

For the purpose of conducting a research on the students' perceptions of online courses at Africa International University in Nairobi County, Kenya, the author has interacted with several related resources. This chapter discusses the history, the Christian world view, the theoretical framework and practices relevant to investigating student perceptions on online courses.

History of Online Courses

The advances in digital communications sets the new paradigm of universal higher education, as first established by Comenius in the seventeenth century and attainable in the twenty-first century (Sadler 2013). The origins of distance education can be traced back to Great Britain in the year 1840 a time when Sir Isaac Pitman taught shorthand by correspondence. This development was directly linked to the beginning of the "Penny Post" in England (Moore 1996). The next major landmark of distance learning happened in 1856 when a Frenchman, Charles Touissant, and a German, Gustav Langenscheidt, commenced teaching written languages via correspondence (Moore 1996; Watkinson 1991). The pioneer university to use distance learning was the University of Chicago (1890s) with the development of its extension division, which was created to offer university courses by mail (Schlosser and Anderson 1994). There were technological obstacles such as slow mailing of materials which led minimal interaction between the teacher and the students.

In the 18th century there was an anticipated boom in education because of the revolution in distance education. Like in 1913, Thomas Edison, proclaimed that: "Books will soon be obsolete in the schools …. It is possible to teach every branch of human knowledge with the motion picture. Our school system will be completely changed in the next ten years" (Saettler 1968, 98). This prediction became a reality between 1930s and 1950s when people could follow education programmes on their radios and televisions without meeting the teacher physically (Purdy 1983). Again, this type of medium did not enhance interaction between the teacher and the students.

In 1960s, there came a wave of new technology whereby satellites were used for educational programming which surpassed the radio and television educational programmes. In this age, there emerged new technology which was being tested to aid in the development of educational programmes (Wedermeyer and Najem 1969). This gave birth to the emergence of satellite technology paving way to the development of Internet in the late 1970s and early 1980s. Casey (2008) reports that online learning became a new architype of learning that was initiated in the 1980's (Harasim, Teles and Torof 2000). With the emergence of the first Web browser which was marketed in 1994 became an index of "true" online learning done through the Internet or an intranet that started to be manifest in its current form. At this point universities started to realize the significance of teaching via the Internet (Shank and Sitze 2004, 3-4).

Today, the increasing accessibility of broadband and the digital enhancements have unlocked up new forms of learning: for instance, online learning opening up ready access to digital media rich content and of late mobile learning allowing the students to access education at any time and from anywhere (Freitas 2013). These trends are wrapped in both the Christian and secular worldviews.

Theoretical Framework

Theories of education are foundational in addressing critical hitches in the field of learning. Olive Mugenda and Abel Mugenda observes, “A scientific theory explains some logical relationships that exist among phenomena and research offers the means of observing whether those relationships actually exist” (Mugenda and Mugenda 2003, 7). Today, much emphasis seem to be on technology itself instead of enhancing learning experiences that are anchored in theory. Although many theories can be incorporated to deduce student perceptions about online courses, the researcher confines himself to three theories. Of late, classical theories such as behaviourism, cognitivism and constructivism have been of value and at the same time criticised by other contemporary scholars. Nevertheless, the applicability of these theories cannot be overemphasised when it comes to online learning.

Behaviourism

Behaviourism is based on the discovery of Thorndike (1913), Pavlov (1927), and Skinner (1974). In the article, *the science of learning and art of teaching*, B.F. Skinner stated that “effective instructional materials should include small steps, frequent questions, immediate feedback and allow self-pacing”. Skinner focused on computer assisted and programmed learning. He highlighted four steps in his programmed instruction: understanding what is to be learned (goals of instruction), identifying the entry skills of learners, developing a series of steps that will move the learners from where they are to where they should be and providing appropriate reinforcement (Penn State Personal Web Server 2010).

Behaviourists affirm that it is the observable behaviour that designate whether or not the learner has been shaped and has acquired the desired traits as the end product. In reaction to this, some scholars are against the interpretation that not all

learning is observable, instead, learning has to do more than a change in behaviour (Anderson & Elloumi 2004, 7).

Therefore, behaviourist approach has been critiqued for its central focus on observable behaviour as key to learning because not all learning is observable. The theory also ignores the thinking process which is integral in learning. Vygotsky (1962) is among those who criticised the behaviourist school as being too narrow, specialised, isolated and intrapersonal in their perspective (Liu and Matthews 2005). This may mean that, learning is not all about what goes into the head of the learner, but noticeable behavioural change in the learner. Consequently, behaviourism has been underemphasised and attention drawn to cognitive learning theory.

Cognitivism

The theory of cognitivism was promoted by Jean Piaget (1960s-1970s) and Lev Vygotsky (1970s-1980s). Separately, these theorists approached the theory differently. Piaget is a psychologist who specified that learning uses schemas or schemes. Piaget defines a schema or scheme as a "the cognition structure that underlines an action or a thought" (Ingule, Rono & Ndambuki 1996, 51). Schemas varies from simple to intricate. According to Piaget focusing on how children learn, the learning process begins from, assimilation; a mental process that occurs when the child incorporates new knowledge into existing knowledge. What follows is accommodation which occurs when the child adjusts to new information. Last mental process is organization which forms Piaget's concept of grouping isolated ideas into higher order (Ingule, Rono and Ndambuki 1996, 51-52). Notice, in the organisation phase, we are forming schemas of thinking while in the assimilation and accommodation stage, we are focusing on adaptation leading to either equilibration or disequilibration.

Convincingly, cognitivists accentuate that learning encompasses the use of memory, motivation and thinking which plays a significant role in learning (Anderson & Elloumi 2004, 7). Cognitivists view the mind of the learners as a computer. Their mind has to recall the stored information and the instruction should help them to store information for future use. Moreover, it is observed that learning comprises the use of memory, motivation, and thinking. Reflection is thus playing a substantial role in learning. Cognitivists recognise learning as an internal process, and maintain that the amount of information learned is relative to the processing ability of the learner, the amount of effort spent during the learning process, the depth of the processing (Craik & Lockhart 1972; Craik & Tulving, 1975 in Ally 2004), and the learner's current knowledge structure (Ausubel 1974 in Ally 2004).

Together with behaviourism, the school of cognitivists has equally received criticism. They are accused of being exaggeratedly reductionist in its analogy of computer and mind (Mayer, 1996). Both behaviourism and cognitivism fail to reflect either the active role of the learning agent or the influence of the social interactive contexts in the present educational settings. Their mechanistic underpinning by an orderly, predictable, and controllable view of the universe is fails to capture the active and social characteristics of learners (Phillips, 1995 in Liu and Matthews, 2005). It is upon this criticism that now a special consideration is on the theory of constructivism.

Constructivism

Constructivism materialised in the 1980s and 1990s (Mayer, 1996 in Liu and Matthews 2005). This theory of learning is based upon seeing learning as structuring knowledge by doing, the aim of instruction is to solve a problem. Constructivism hypothesises that "knowledge is individually constructed and socially reconstructed by learners based on their interpretations of the experiences in their world. As a result,

knowledge is generated by the learners, learned in a “real world” context through collaboration and social negotiation” (Chen 2007, 73). For this reason, “learners learn best when they can contextualize what they learn for immediate application and to acquire personal meaning” (Alley 2004). Subsequently, the nature of constructivist studies in an online format necessitates considerable preparation by the teacher and the student in terms of the preparation required to generate meaningful learning experience (Cavanaugh 2005; Hughes, Wickersham, Ryan Jones, and Smith 2002; Rajandran, 2003 in Chen 2007). This infers that learning happens in a given context and therefore the instruction should be thoughtfully prepared to fit learners’ context of application.

Constructivist is criticised of epistemological relativism (Phillips 1995) because it zips the construction of knowledge on the individual learner. If every learner can interpret and then personalize the information into personal knowledge by interacting with various aspects of learning, then it could be impossible to find the absolute truth about a subject matter, conviction or value system. Also, Fox (2001 in Liu and Matthews 2005) observed that in its emphasis on learners’ active participation, it is often realised that constructivism straightforwardly dismisses the roles of inactive perception, memorisation, and all the mechanical learning methods in traditional didactic lecturing.

Discussion on the learning theories can never be satisfactory for this research without showing how they can be applied in the online learning.

Applicability of the Theories

Even though the theories of behaviourism, cognitivism and constructivism have received criticism, its applicability in online learning is worth discussing. When analysed thoughtfully, there are several commonalities emerging in the ideas and the

principles of the behaviourist, cognitivist, and constructivist schools. This implies that the three theories can apply to the design of online learning courses. Agreeing to Ertmer and Newby (1993), the three theories can serve as a taxonomy for learning. In this case, behaviourists' approaches can be used to teach the "what" (facts), cognitive approaches can be used to teach the "how" (processes and principles), and constructivist approaches can be used to teach the "why" (higher level thinking that promotes personal meaning and situated and contextual learning).

Janicki and Liegle (2001) analysed different instructional design models to identify the components that support quality design of Web-based instruction. Components were identified from each of the behaviourist, cognitivist, and constructivist schools of learning. Online instruction must use strategies to allow learners to attend to the learning materials so that they can be transferred from the senses to the sensory store and then to working memory. The amount of information transferred to working memory depends on the amount of attention that was paid to the incoming information, and on whether cognitive structures are in place to make sense of the information. So, designers must check to see if the appropriate existing cognitive structure is present to enable the learner to process the information. If the relevant cognitive structure is not present, pre-instructional strategies, such as advance organizers, should be included as part of the learning process (Ausubel 1960).

Student Needs and Expectations

Learning takes place in an educational setting and for this research in an online environment. An online environment is characterised by the way it has been designed to meet the student needs and expectations. Kathleen King observes the following: First, online learning environments offers an incomparable chance to access the benefits of peer learning. Online students expect instructors to engage them

in peer learning. Here, students are able to increase their understanding through collaborative learning. Peer learning in an online class encourages the learners to develop a critical inquiry which acknowledges a learning community with respect to diverse views (King 2010, 1).

Second, a good online environment is characterized by the way student assessment is designed. The frequency and depth of student feedback is important in an online environment and it should consider varied options. Primarily, students expect to frequently receive direction and support throughout the course; in assignments and discussion forums. In addition, students expect the online instructor to provide detailed, swiftly written evaluations and remarks on larger assignments so that learners have enough information and time to improve their work for their subsequent submission (King 2010, 1).

Third, in an online environment student expect an intensified interaction between them and the instructor. For instance, various means for student interaction with the instructor may include online office hours, responsive email policies, assessment feedback and/or advising schedules (King 2010, 1).

Fourth, students expect to take part in the course evaluation. They anticipate that the course should incorporate strategies and feedback options for them to share needs, problems and suggestions during and after a course delivery (King 2010, 1).

Sixth, students expect improvement in the design of the course in future. The feedback provided by the learners should enable the online instructor to discover assignments and strategies to add and make new developments (King 2010, 2).

Apart from King (2010), other authors have different perspectives of student expectations. They argue that, in order to see students excel in online courses, they should have the means to access the required hardware and software as well as having

more or less proficiency in using the technology. In the same vein, students should be able to express themselves through writing, have self-motivation and self-discipline. They also need to obligate ample time per week to the course work, and they should seek for help in case they face difficulties (Howland and Moore 2002; Huber and Lowry 2003). Nevertheless, these expectations are often not taken with seriousness, and as a result many students without these significant characteristics tend to struggle which causes some of them to abandon the online course (Osika & Sharp 2002).

Another main concern for online students is time management because they have other courses to attend to, work as well as social commitments (McEwen 2001). These students are anxious about the administration, teaching methodologies, and academic credibility of the online courses (Bocchi, Eastman & Swift 2004). Such prior knowledge of student needs and expectations should be put into consideration when designing an effective online course.

A study was done which sought to establish learning styles, expectations, and needs of students taking an online course. It targeted the undergraduate college students taking online courses in the Department of Industrial Technology Education at Indiana State University. The findings from three expectations of the online students were highly ranked; communication with the professor, instructor feedback, and challenging online courses. The results showed 83 percent were of the view that the professor should communicate with them regularly (Mupinga, Nora, & Yaw n.d.). This implies that students feel at ease and that they are not missing anything in the online class. In addition, 79 percent of the students expected their assignments to be graded immediately within the week or not later than the week that follows. Responding on the quality and thoroughness of the online courses, 75 percent of the

students anticipated the online courses to be comparable in demand to the traditional face-to-face courses (Mupinga, Nora, and Yaw n.d.).

Likewise, responses to on the needs of online students included technical help, advance course information, and mock-up or sample assignments with clear guidelines. Additionally, the students required the same course management platform for all their online courses, supplementary reference materials, and equal appreciation similar to face-to-face students. Specific examples of the materials included links to access extra materials and uploaded books that can enable the students to work offline. The students suggested, for them to be valued like the on-campus students through the use of organized group chat sessions, discussion boards, e-mails among others. A representation of 93 percent students voiced their need for technical help with computers, logging on to the university Web system and navigating through the course online platform. Others reported the need for flexible and understanding instructors, particularly with assignment cut-off date in online classes (Mupinga, Nora, and Yaw n.d.).

In support of the above, Howland and Moore (2002) in a study on perceptions of distance learners, the students conveyed the lack of confidence in their ability to interpret assignment and as a result, they needed verbal guidance from their instructors. This may be applicable in universities that offer both face-to-face and online classes. It is therefore noteworthy to assert the needs and the expectations of the students can be met if there are best practices in the online environment.

Best Practices of Online Courses

Internet and web technology contribute to the transformation of education in the 21st century, however we cannot overemphasise the jeopardy of placing technology before education. From literature, best practices refer to the teaching

methods or techniques that have proved to be an effective tool for facilitating improved learning processes in students (Watson & Gemin 2008; Savery 2005; Zemelman, Daniels, & Hyde 2005).

The prerogative is that online learning enables learners to be more self-directed, inquisitive, and reflective (Al-Shehri 2010). The fallacy about online learning of putting more emphasis on technology rather than seeing technology as a tool to aid in learning (Global Virtual University 2009) can be inverted by the integration of best practices in learning. This is because, learning is profoundly about change in attitudes, skills, and knowledge which is based upon best practices in a virtual environment.

Baghdadi presents ideas of online education best practices bases on reviewed academic literature on the topic. He evidently defines what it means by best practice referring to the United Nations Educational, Scientific and Cultural Organization's (UNESCO) definition. UNESCO describes best practices as having 4 common characteristics. Best practices: 1) are innovative; 2) have impact;
3) are sustainable; 4) possess the potential to be replicated as a model elsewhere (Baghdadi 2011).

Best practices are those used in online education in the most efficient and effective way to transmit knowledge and skills. The article breaks down best practices into 3 categories: 1) role of instructor; 2) course design; 3) administration. According to Baghdadi, importance is placed on the need for communication not only between the learner and instructor but the learner and other learners as well. Best practice allows for increased meaningful interaction by utilizing technology that makes it easier for instructors to manage and monitor student activities and performance. The instructor autonomously makes significant contributions to the course outside of the

design phase. Important best practices for instructors also include understanding the typology of students in online courses and reflect accommodation and flexibility for a varying range of learning styles, abilities, and technical aptitudes. In addition to typology, best practice for instructors stress the need for timely feedback with expectations for all parties clearly stated and described, as well as, predictable patterns and schedules that respect the need for a work-life balance (Baghdadi 2011).

Best practice in regard to course design include: a need for a collaborative approach with a knowledgeable team, a basis on quality curriculum, a consideration of multiple intelligences and a determination of best delivery methods to address them. It is important that administrators use best practices to recognize that the ways courses or programs are created can be different from one another, making sure to value both on and off site staff equally, ensuring equal credibility between online and traditional course and creating protocols for all staff to communicate on a regular basis (Baghdadi 2011).

Principles of Good Practice

Chickering and Ehrmann (1996) present an updated version of their original work which takes into account new advances in educational technology. The authors present seven principles to be used in the appraisal of a specific technology and whether it is best suited for a learning outcome or task.

These principles are: 1) Good practice encourages contacts between student and faculty: This is a particularly important principle given the needs of online learners. Asynchronous communication technology has a flattening or levelling effect that open access to various learning styles, geographic locations, social and interpersonal styles. 2) Good practice develops reciprocity and cooperation amongst students: Understanding is dependent on sharing thoughts, feelings and responding to

others using collaborative technologies like social media. 3) Good practice uses active learning techniques: Active learning requires learners to talk about their learning, write reflectively, relate their experiences and apply learning to their everyday lives. Active learning can be encouraged by using tools and resource that promote learning by doing, time-delayed exchanges and real time conversations. 4) Good practice gives prompt feedback: Feedback needs to be approached as a continuum with a beginning (student needs help assessing knowledge and competency), middle (student needs frequent opportunities to perform and get feedback) and end (student needs chance to reflect, determine what is still unknown and where to go from there). 5) Good practice emphasizes time on task: Time plus energy equals learning. 6) Good practice communicates high expectations: Having high expectations for students and the instructor becomes a self-fulfilling prophecy. 7) Good practice respects diverse talents and ways of learning: Students have preferred methods of learning and course content needs to be delivered in multiple ways. However, giving options also can be a positive challenge for others and a chance for growth (Chickering and Ehrmann 1996).

In summary, Anderson's Community of Learning Model combined with Chickering & Ehrman (1996). The seven principles of online learning provide a strong basis of examining student perceptions of online courses. For the Community Learning Model to be most effective it must contain its three most important components as listed in the introduction of this section: 1) cognitive presence – occurs in an environment that promotes discussion and critical thinking; 2) social presence – participants feel comfort and safety to express themselves in a collaborative context; 3) teaching presence – indicated as the most critical. These types are discussed in detail as follows.

Presence in Online Learning

Primarily, the presence of both the instructor and the learner is essential in a virtual environment. Garrison, Anderson and Archer (2002) suggest the need to explore three kinds of presence in online learning; cognitive presence, social presence and teacher presence. Anderson (2008) introduces his theoretical Community of Learning model which is presented as a means to develop an effective online education community for powerful learning to occur.

Cognitive Presence

Cognitive presence refers to, "an environment and climate for deep approaches to learning and meaningful education exchanges" (Garrison and Clevelanf-Innes 2005, 144). In this study, cognitive presence has to with the learners' involvement in online learning. According to Garrison et al. (2000), the prompting occurrence happens in the learners' shared environment in which they gain insights of the content and explore it independently as well as finding out how to practically apply the content. The learners try to apply their concepts to different settings and analyse the divergent parts of the content. Generally, cognitive presence becomes meaningful when the learners express and share their knowledge, opinions, or beliefs.

Social Presence

Social presence refers to the "ability to project the social personae into a community" (Rudestam and Schoenholtz-Read 2010, 209). It is was also defined by Short and Christie as a "degree of salience of the other person in the (mediated) interaction and the consequent salience of the interpersonal relationships" (Short and Christie 1976 in Richardson 2003, 70). For Shortie and Christie definition is not as

general as that of Rudestam and Schoenholtz, they (Shortie and Christie) tend to think that the level of social presents varies among different media.

Richardson conducted a study to explore the role of social presence in online learning environments. Specifically he sought to examine the relationship among students' perception of social presence in online courses, students' perceived learning and their satisfaction with the instructor. The participants in the study were students who had completed online courses at Empire State College. The findings proved that social presence not only affects outcomes but also students' and even the instructor's satisfaction with a course. Teacher immediate responsive behaviours and the presence of others are exclusively significant concerns for those involved in teaching online courses. Instructors need to be aware of the influence that their immediate responsive behaviours and social presence or nonexistence thereof may have on their students' satisfaction, motivation, and learning (Richardson 2003).

It is therefore important to accentuate that both the students' and the teacher's social presence in the online environment promotes learning.

Teaching Presence

Teaching presence, "includes designing and managing learning sequences, providing subject matter expertise, and facilitating active learning" (Rourke et al. 2001). Teaching presence in this study, has been operationalised as the meaningful involvement of the instructor in online learning. A study was done by Garrison and Cleveland-Innes (2005) on 75 online graduate students who were selected purposively. The Study Process Questionnaire (Biggs, 1987) was used at the start and completion of each course to measure change in students' approach to learning. Biggs indicated three approaches to learning, namely, deep, surface, and achievement. Surface approach to learning stood out as the least appreciated and utilised the least

amount of quality learning. An achievement approach signified that a student was motivated to learn by extrinsic reward. Deeper approaches to learning were regarded the highest quality learning experiences, when students tried to acquire meaning and knowledge construction. Separately, in the four courses of interest, an instructor used a different teaching approach, small group discussion of readings, students responded to text lectures as individuals, voluntary participation and student-moderated online discussions, where the last course was designed with high instructor involvement emphasizing on critical thinking skills. The researchers labelled three variables as low, medium or high: instructor involvement, level of interaction, and reflective assignments; and each of the four courses was categorized according to these variables.

According to the findings of Garrison and Cleveland-Innes (2005), there was a significant difference in the change to a deep approach to learning across courses from the beginning to the end of the course (F (3, 72) =2.706, p=.050). As for the fourth course, it was designed to produce a learning environment structured and facilitated to produce deep approaches to learning through reflective assignments. In addition, the discussions were led by a busy instructor who facilitated fewer but more in-depth discussions. The fourth course produced the highest gain in students' perception of using a deep approach to learning. Even though the researcher did not use statistics, they reported that teaching presence (instructional design and facilitation/direction) was a contributing factor to students' achievement of deeper approaches to learning.

Best Student Characteristics

This section unfolds student characteristics in an online class. These include: interaction or interactivity, learning styles and preferences, critical thinking and student motivation.

Learning Styles and Preferences

In an online class, students tend to have their own perceived learning styles and preferences which influence their activities in the learning environments (Sheard and Lynch 2003). Marlene LeFever in Michael Anthony observes, learning style is "… the way a student sees or perceives things best and then process or uses what has been seen" (Anthony 2001, 130). In this view, the following discussion focuses on the probable learning styles and preferences utilized by online students.

LeFever discusses how learning is a natural progression or cycle. First step is of collaborative learners. These are learners who perceive themselves as already having knowledge according to their past experiences and they are willing to share and explore it with other learners. Second step entails analytic learners who are eager to learn a new thing or would gain a different perspective of the subject. Third step involves the common sense learners who need to build on the gone knowledge. They like to apply the knowledge they have acquired so that they can make sense out of what they have learned. The fourth step comprises the dynamic learners whose task is to engage other learners in finding creative ways of putting into use what they have learned (Anthony 2001, 131).

In similar vein, it is important to discuss the different ways that the learners prefer during the learning process. An inventory of these preferences includes visual, auditory and tactile/kinaesthetic learning. Basically, visual learning is attributed to learners who are able to read and are picture literate. Next, auditory learning puts

emphasis on those learners who learn by hearing. Finally, tactile/kinaesthetic learning is about those learners whose body movement in the learning process is evident. Tactile refers to a sense of touch while kinaesthetic refers to large body movement such as miming (Anthony 2001, 136-37).

Literature reveals that most students taking online courses are attracted by the user-friendliness and flexibility of scheduling of the courses (Ryan 2001). Conversely, the learning characteristics of the students are unidentified, hence challenging to design effective instruction. Consequently, the instructors should seek to exploit the students' learning experiences, by being sensitive different learning styles and preferences in the online learning environment. It is also pragmatic that most independent learners feel comfortable taking an online course (Illinois Online Network 2003). Nonetheless, according to Moskal and Dziuban (cited in Bocchi, Eastman, and Swift 2004), the majority of students who take online classes do so not essentially because the format matches with their learning styles, but since they are appealed by the expediency, availability, and flexibility of scheduling the classes. In a nutshell, there are no predominant learning styles among the online students; henceforth, the design of online learning activities should seek to engage multiple learning styles and preferences.

Critical Thinking

In order to make learning a successful process, students must be engaged into critical thinking. In fact, the purposes of higher education is to enhance active learning experiences in students (Gharib et al. 2016). For this reason, virtual learners need to be critical thinkers or be provided with skills for critical thinking. Even though there several definitions for critical thinking, the one adopted in this research is that of the American Philosophical Association (APA). In APA, part of the

Consensus Statement Regarding Critical Thinking and the Ideal Critical Thinker defines critical thinking as the: "… purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based" (American Philosophical Association 1990).

In view of the definition of critical thinking, Gharib et al. (2016) argue that online learning is no longer perceived at as in the early stages of its development where the instruction concentrated on familiarizing themselves with the technology. Presently, there is a complete redefinition the process of online learning. Innovative new approaches are being used, not only to transfer knowledge, but also to build knowledge in students (Hamilton 2010; Van de Vord 2010 and Palloff 2003). By doing this, learners are able to think critically and acquire lifelong learning skills.

Interaction or Interactivity

In determining the effectiveness of e-learning platforms, the student perceptions on interactivity of those platforms need to be examined. The reason underpinning this is that interactivity of the e-Learning platform is what increases students' retention level while using the platform. Conversely, according to Odhiambo and Acosta (2009, 1018), e-Learning systems are existing today, but several of them have limitations that deter improvement of the effectiveness and student potential of e-Learning. Thus, we may attach Anderson and Elloumi idea of embracing communication technologies to facilitate communication between all the participants involved in education transaction (Anderson and Elloumi 2004, 43).

It is therefore crucial to understand the meaning of interaction or interactivity. These terms are often used interchangeably in online learning. John Dewey denoted that interaction is the central factor of the educational practice that transpires when the

students transform the inert information passed to them from another person and constructs it into knowledge applying it in the real life (Dewey 1916).

According to Wagner's definition of interaction as "reciprocal events that require at least two objects and two actions. Interactions occur when these objects and events mutually influence one another" (1994, 8). For Shank and Sitze, interactivity refers to what "… influences learning by causing the learner to do, think, or react" (Shank and Sitze 2004, 41).

Shank and Sitze observe that learning content in online courses is essential, nonetheless, that is not sufficient. There is need for to incorporate meaningful interaction and activities. In similar vein, interaction occurs when the learner has to do something and in turn receives meaningful feedback. What does the learner interact with? The learner interacts with the content, people and the technology itself to make something happen. For instance, to get feedback and input as well as learn from the experience. Shank and Sitze observes that, research has proven how interaction is of vital importance in an online class. The proof is that much traditionally designed instruction fails to transfer knowledge to real-life settings. Thus, what makes knowledge and skill to be mastered by learners is using them (knowledge and skill) in similar way that one could use in the real world (Shank and Sitze 2004, 26). To elaborate on this view, the table that follows entails activities that can enable the learner to construct knowledge.

Table 1: Interaction types and related activities

Interaction Types	**Activities that promote Recall**	**Activities that require High-Level Thinking**
Interaction with content (text, video, graphics, simulations, programming)	JavaScript quiz Drill-and-practice Learning games Flash cards Simple animation Presentation sequence (text-graphics or slides-text) FAQs	Pre-work Tutorial Hands-on practice Field work Simulation Guided analysis Virtual Lab Field Trip Scavenger hunt Job aid Journaling, reflection
Interaction with people (other learners, subject matter experts, instructors among others)	One-way Webcast (instructor to students) FAQs Group test preparation	Pre-work Case study Document Review Build model Build lesson Peer review, group critique Team design Team discussion Build resource list Role play Position paper Journaling, reflection
Interaction with technology	Site map Help files FAQs	Tutorials Demos Help desk

Adopted from Shank and Sitze 2004, 27

The activities in Table 1 promote in an online learner, the ability to remember and to apply the content in real-life situations. To concur, Shank and Sitze (2004), and Anderson and Elloumi (2004) underscore the types of interactions found in the online learning. They include student-student, student-teacher, student-content, teacher-teacher, teacher-content and content-content interactions.

First of all, traditionally student-student interaction has been underestimated in the online learning (Holmberg 1989) and yet peer-peer interactions is essential to developing communities of learning (Wenger, McDermott and Snyder 2002) which

provides the learners to exchange the critical social skills that promote learning. Second, student can be motivated to be interact with the teacher provided "… a large number of varieties and formats that include asynchronous and synchronous communication using text, audio, and video" (Anderson and Elloumi 2004, 47).

Third, to promote student-content interaction, the online platform should be inclusive of interactive content that responds to student behaviour and attitudes. Fourth, teacher-teacher interaction enables the online instruction to improve their course content by sharing knowledge with another scholar community. Teacher-content interaction aids the teachers to continuously monitor and update the course content as well as activities that promote learning. Finally, content-content interaction is seen as an emerging paradigm in online learning. Here, the content is programmed in a way that it can interact with other computerized information sources, hence refreshing itself repetitively and to generate new capabilities. For instance, the tutorial might pull most information from other servers which is convenient to both the teacher and the learners. Also, the content-content interaction assists in tracking the credibility of the data as used by the both teachers and learners (Anderson and Elloumi 2004, 48-49).

From a different vantage point, a study was conducted to evaluate the usability and interactivity of both Moodle and WebCT e-Learning platforms as perceived by the students among Kenyan universities. The findings revealed that:

> students feel that the e-Learning platforms are not offering enough in the areas of usability and interactivity. The lack of help menus and availability of non-context specific help menu is the cause for the poor score in the areas of learnability, memorability and helpfulness to accomplish the tasks on e-Learning platform. The passive interactivity on the platforms leads to the poor score in linear interactivity (read) compared to linear interactivity (listen and watch), real-time communication and respond-practice interactivity (Odhiambo and Acosta 2009, 1025–25).

The above findings imply that, online instructors are concentrating on uploading notes for students to download and encouraging them to upload assignments which inhibits them to enhance their technology savvy. These brings us to the essentiality of the Moodle platform which seem to be misused in this era. The learner and the instructor have to interact in an online enhanced class. Collaborative learning should be exhibited through creative platforms such as the Moodle.

Student Motivation

From psychologists' definition, "motivation is an internal process that activates, guides and maintains behaviour over time" (Baron 1998; Murphy and Alexander 2000; Pintrich 2000; Schunk 2000 in Slavin 2000). According to Robert Slavin, motivation is the influence of needs and desires on the intensity and direction of behaviour (Slavin 2000). These two definitions already show us that motivation is one of the most crucial components of learning and considered as the most difficult to measure.

Riaz, Rambli, Salleh and Mashtaq (2010) explore the relationship between student motivation in formal and informal learning environments and web-based learning. For the purposes of this study, informal learning environments were defined as video games, social networking, and motion pictures. Four hundred and seventy-three students from universities in Pakistan and Malaysia completed a quantitative survey. Findings revealed that there was a positive relationship between motivation in formal and informal learning environments and web-based learning. However, formal learning environments were strongly influenced by extrinsic motivation, whereas informal learning environments were strongly influenced by intrinsic motivation. The study revealed that the three most significant motivational factors in the formal learning processes were: collaborative development and sharing; mastering skills; and

realistic learning. In comparison, important motivational factors in informal settings were the self-regulated environment and interactivity of video games; and intrinsic enjoyment and participation of social networking. Implications identified that informal learning processes such as social networking, online discussions and messaging should be used to increase student motivation in formal learning environments. Similarly, video games – predominantly self-regulated informal learning environments - demonstrate how learning motivation factors such as control, challenge and curiosity could be included in formal learning.

In addition, Rovai, Ponton, Wighting and Baker (2007) try to find out if motivation is the same or different depending on: traditional or online course types; undergraduate or graduate status; and ethnicity. Three hundred and fifty-three students from twenty-four courses in universities in Virginia completed an Academic Motivation Scale survey. This tool measured three types of motivation: intrinsic, extrinsic and amotivation, or the inability of a person to participate in normal social situations. Findings revealed that online students were more highly motivated intrinsically, but there was no difference in extrinsic motivation and amotivation. Graduate students scored much higher on the intrinsic motivation variables to know and experience stimulation. Interestingly, the undergraduate students scored higher on extrinsic external regulation forms of motivation. This study demonstrated that no significant differences existed in the motivation of the ethnic groups surveyed. Implications identified that the results of online students being more intrinsically motivated may be a result of intrinsically motivated students selecting online courses in an IT environment they were comfortable and have perceptions of control. The authors pointed out that rewards, feedback, and communication between the instructor and student helped online students feel competent, which increases their motivation.

Also, Singh and Singh (2011) in a different study compared the academic motivation of students in the Indian Open Education System (OES) and Traditional Education System (TES). Further, their study incorporated comparison of student motivation in urban and rural areas. Three hundred and fifty-one undergraduate students completed the Academic Motivation Scale (AMS) questionnaire. Findings revealed that in the total student population, academic motivation levels were higher in TES than in OES in all of the dimensions of motivation including: personal aspirations; study habits, social-family economic environment; and attitude towards college/study centre. Therefore, it was demonstrated that students studying in OES had less extrinsic and intrinsic motivation. In TES, urban students demonstrated higher motivation levels than rural students. However, the opposite was true of OES, which showed higher motivation levels in rural students. Implications identified that extrinsic motivation may be increased in OES by improving the recognition of degrees obtained through OES. In addition, intrinsic motivation may be increased by improving involvement of tutors in local study centres, enhancing these facilities, and improving the technology familiarity of staff and students. This may decrease the psychological gap between TES and OES students and result in increased academic motivation of students in OES.

Analysing the three studies on motivation, a commonality in the researchers' viewpoint is that motivation is a necessity in online learning. Several factors can cause the student to have the willingness to put effort into learning. Considering the fact that these factors can be either intrinsic or extrinsic, they should be incorporated into online learning. For example, instructors engaging students with multiple activities, complementing on their social and their academic engagement in the Web environment.

Challenges Faced by Students in Online Courses

Students face several challenges in online learning; technological challenges, time management challenge, online course delivery challenges as well as learning styles challenges.

Internet Connectivity

The Internet is the key factor in online learning. When we talk about online learning we actually talking about learning on the Internet. However, Internet may has got its advantages and challenges. In light of its advantages, Haughey and Anderson indicate that the Internet has a wider capacity to connect the users with the information and with each other (Haughey and Anderson 1998). Negatively, the users experience "problems with navigation, structure, interactivity, complexity, security, and sheer consumption of time …." (Anderson and Elloumi 2004, 164). If these challenges in Internet are not addressed the Internet thus fails to serve its purpose towards the learning process.

To counter the challenges of Internet connectivity, Heinich, Molenda, Russell, and Smaldino (1996, 263) are of the view that the Internet has the power to provide wide connections which are of interest to both the teacher and the learner. It is upon them to make meaningful utilization of the Internet. In addition, the absence of structure on the Web may cause some users to involuntarily get lost while surfing or be "lost in cyberspace," (Anderson and Elloumi 2004, 164) or misuse their time. Also, Anderson and Elloumi continue to observe that the Internet resources habitually fail to exploit the medium's potential for interactivity, hence comprising of linear presentations of information. The consistency of online information sometimes may be untrustworthy (Anderson and Elloumi 2004, 164). As such, in order to make online

learning a success, there is need for proficient literacy, IT skills and improved internet connection.

A technical challenge is to an issue such as the slow speed, the faults, utilities and features not functioning or do in a proper way. Literature on online learning has questioned the quality of the online structures presently being utilized. Institutions of higher learning have been criticized on how they execute online courses and the investment made towards online learning (Chua and Dyson 2004). Even though there are variety of technologies, the online instructors still confine themselves to traditional way of teaching (Farmer 2004, 5). These old ways of instruction incorporate discussions, announcements and other messaging platforms directed to students' personal email addresses which is a disadvantage to student engagement. Also, there is insufficient technical support to online students compared to the urge of succeeding in academics. (Reeder et al., 2004, 91-92). Universities are running on wide range of computer applications and systems dedicated to administrative matters and they are linked to the virtual learning space to allow central management and service to the users. This trend slows the speed of the internet for online leaning due to much traffic. The infrastructure should aid in serving students efficiently in online learning (Nielsen et al. 2011).

Challenge of Learning Styles

Challenge of learning styles among online students is prevalent in universities. There are learners who values interacting with their instructor or peers, other learners are best with pictorial presentation while some may prefer to listen and follow directives as well as depending on written work. This issue threatens the learning because the online instructors need to determine the learning styles of the online students in the online space. The online has the responsibility of deciding on the best

methods of teaching in an online environment. Online courses need a facilitator who is knowledgeable, confident, with authority and can demonstrate empathy to students in light of their learning styles and desires. The online instructor should be student centred using varied techniques such as tests, discussions, group works. The online instructor should also engage the learners to a level that they can think critically on issues as well as mentoring the students (Banning 2005).

Summary

Chapter 2 has captured the main research variables from the literature related to factors influencing students' perceptions of online courses as well as the conceptual framework. In the coming chapter, the researcher delves into the research design and methodology.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

Introduction

The central purpose of this research was to examine factors influencing students' perception of online courses at Africa International University. This chapter includes the following subsections: the research method, research design, location of the research, target population, sample population, research instruments, validity and the reliability of the instruments, techniques of data collection and analysis as well as ethical considerations in the research.

Research Method

The research employed the quantitative approach to research. The researcher generated data from students regarding their perceptions towards online courses at Africa International University. In addition, the researcher was interested in the descriptive data (Orodho 2003) of the respondents.

Research Design

A research design is defined as "a scheme, outline or plan that is used to generate answers to research questions" (Orodho 2003). A research design used in this study was the descriptive survey. Descriptive survey is when data is gathered by conducting interviews or by issuing questionnaires to a sample of participants (Orodho 2003). In order to test the hypotheses, the researcher did correlational tests. According to Gogtay and Thatte (2017) Correlation analysis is used to show the

relationship between two or more quantitative variables. This design is justified because the researcher gathered data from the respondents about factors influencing their perceptions of online courses.

Entry

To get permission to conduct the study, the researcher made an official request for an introductory letter from the Graduate School Board at Africa International University and the National Council for Science, Technology, Institutional Ethical Research Board (IERB). Also, the researcher sought permission from AIU in order access and collect data from the respondents.

Context of the Research

The researcher conducted the study at AIU. The named university is located within an urban setting of the capital of Kenya, Nairobi. AIU was founded on evangelical beliefs. It first started as a seminary college in 1983 and later become a chartered university in 2011. This implies that the degrees offered are recognised by the Government of Kenya (AIU official website 2016). It is worth mentioning AIU admits students across all Kenya and its borders. In particular, AIU is known for its diversity in terms of nationalities. The students in this university comprise of two categories; government-sponsored and self-sponsored students. The researcher's choice of AIU came up as a result of his experience as a student, easy access to respondents which minimised the challenges of administering and retrieving data as well as financial costs.

Target Population

Population refers to a target group with common characteristics from which the sample is drawn (Kombo and Tromp 2006). The population comprised of both

male and female students at AIU and in particular those taking online courses. The study puts into consideration student of the following levels of study: diploma, bachelors and masters. These students share similar experiences in their learning and therefore their participation was of significant contribution to the study. AIU has an approximate population of 800 students and according to the director of the ODeL department at AIU, David Situma (2016), those taking at least one or more online courses at AIU are 360 students.

Sample Population

From the total population of approximately 800 students, the researcher used probability sampling methods to ensure that the sample was not biased. Specifically, stratified random sampling to draw out the participants to be investigated. The researcher stratified the participants according to the academic programs; diploma, bachelors and masters. Students in the PhD program were left out because they did not take online courses, they had face-to-face seminars with their professors. The researcher requested a list of student names from each program (diploma, bachelors and masters) and proceeded to randomly draw out the proportionate number of students from this list. The researcher used Slovin's formula; $n = \frac{N}{1+Ne^2}$ where 'n' signifies the sample size, 'N' symbolises the population and 'e' denotes the confidence level. In this case, the margin error was 0.1%, confidence level was 90%, and population size was 360 students as well as the response distribution being 50%. The sample therefore was 78 respondents.

Research Instruments

The instrument used in the research was a formulated questionnaire with closed-ended items and a few open-ended items to generation any additional

information. The closed-ended items took the form of a Likert scale. According to Nachmias and Nachmias, a Likert scale is a method designed to measure attitudes and has got a continuum of five points. The points can be recorded as 1, 2, 3, 4, 5 or 5, 4, 3, 2, 1. The values denote the relative weights and their direction is determined by the favourableness or unfavourableness of the item (Frankfort-Nachmias and Nachmias 1996, 465-66). The respondents agree with the statement or the extent to which it occurs (Hoy 2010, 36-37). During the data collection process, the researcher administered the instrument to students with an aim of collecting information examining perceptions of students towards online courses at AIU. The Likert scale statements were used to generate data regarding students and instructional faculty. The data collected was used in answering the following research questions as summarized in the triangulation matrix below.

Triangulation Data Matrix

The researcher adopted a triangulated data collection plan summed up in a triangulation matrix. It involves use of multiple independent sources of data to establish the truth and accuracy of a claim. For the sake of this research, the emerging patterns among the data sets are discussed in Chapter 4 so as to state how the findings tend to converge, offer complementary information on the same issue, or evidencing discrepancies (Cathain, Murphy and Nicholl 2010; Farmer et. al. 2006; Foster 1997; Erzerberger and Prein 1997; Craig 2009).

Table 2: Triangulation matrix

Research Questions	Data Source #1	Data Source #2	Data Source #3
. In what ways do online best practices influence students' perceptions of online courses	Likert-scale survey with students	Closed ended items with students	Empirical studies, books, journal articles, brochures, catalogues, and other relevant documents
2. How do best student characteristics influence students' perceptions online courses?	Likert-scale survey with students	Closed ended items with students	Empirical studies, books, journal articles, brochures, catalogues, and other relevant documents
4. To what extent do challenges faced by students in online courses influence their perception of online courses?	Likert-scale survey students	Closed ended items with students	Empirical studies, books, journal articles, brochures, catalogues, and other relevant documents

The researcher used a questionnaire based on the Inventory for Online Course Evaluation in Postsecondary Education (Seok 2006). The questionnaire had two sections. The first section asked for students' gender, technology skills, number of online courses completed and number of still ongoing online courses. The second section includes Likert statements and will use a 5-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). Respondents indicated their choices from the five provided for each of the statements.

The questionnaire focused on the respondents' perceptions in the following areas of online instruction: cognitive presence, social presence, internet connectivity, best practices in online learning, interactivity, course objectives, delivery methods,

practice, learning styles and preferences, critical thinking and student motivation. The items ranges from 1 = strongly disagree to 5 = strongly agree.

In addition to the closed ended items, the researcher also administered closed ended questions to generate any additional information regarding students' perceptions of online courses.

Validity of the Instruments

Validity has to do with whether the questions in the research instrument are measuring what they are to measure (Muijis 2011, 56). The researcher developed a questionnaire to aid in measuring students' perceptions towards online courses. The researcher did a pilot study with 10 undergraduate students and upon discovering some of the statements were not clear, the researcher modified the statements. The modified six statements which were in negative forms to positive forms were: 1) My instructors avail weekly notes for me; 2) Activities in the online space encourage critical thinking; 3) I often get help from the ODeL support staff when I am stuck; 4) I interact with my peers so often in the online environment; 5) The online courses allow me to work at my own pace; 6) Online courses do meet my needs and expectations.

Reliability of the Instruments

According to Muijs, reliability of a research instrument refers to its consistency; when it has "the ability to measure the same thing at different times" (Muijs 2011, 62). The researcher adopted a reliability coefficient of 0.7 as used by Seok (2006). In addition, the researcher used more than one item to measure the instrument hence its higher reliability. In particular, on the scale regarding student perceptions of online courses, the items ranged between four and eight items. The

researcher calculated a correlation coefficient which was significant at 0.01 level (2-tailed).

Data Collection

The researcher sought to examine factors influencing students' perceptions of online courses. To achieve this, the researcher used a questionnaire with closed-ended items and a few open-ended items. Closed-ended items drew out the related perceptions predicted by the researcher and could be measured while the open-ended items revealed any additional information regarding students' perceptions of online courses. The questionnaire collected information from students who had completed or were taking courses online. The questionnaire had clear-cut questions that enabled the respondents react on them in a span of not more than 30 minutes.

Data Analysis

Descriptive statistics was essential for this research. Importantly, the researcher was interested in generating quantitative data, thus, doing descriptive analyses of the data. The researcher coded the raw data in a Statistical Package for Social Sciences (SPSS) version 23 thereafter analysing the data. This software helped in the manipulation of the values and coming up with statistical tables showing statistical measures such as means, standard deviations and frequency distributions. With regard to the items, a mean of less or equal to 2.4 was interpreted as disagree, 2.5 to 3.4 was a neutral response of neither agree or disagree while a mean of greater or equal to 3.5 was interpreted as agree. A smaller standard deviation indicated homogeneity in the responses while a higher standard deviation indicated greater variation in the responses. The frequency distribution used to indicate the frequencies of the responses for each item which in turn was used to calculate the mean and

standard deviation. The researcher includes charts and graphical representations. Spearman's rank correlation coefficient was performed to test the first and second hypotheses as well as the third hypotheses. For the first and second hypotheses the *p* value was .01. The calculated *p* value for the third hypothesis was $p < .05$. The strength in relationship was of the first hypothesis was denoted by $r = .930$, the strength of the second hypothesis was indicated by $r = .928$ and the strength of the third hypothesis was shown by $r = .234$. The statistical measures and the graphical representations aided in describing and analysing the data in a meaningful way. It is upon doing these that the researcher was able to interpret the results (Muijis 2011, 124). Nonetheless, there were also ethical issues that were considered.

Ethical Considerations

The researcher was concerned with ethical issues because the study involved collecting data from people and about them. The literature reviewed was given its due acknowledgement using A Manual for Writers of Research, Papers, Theses and Dissertations: Chicago Style for Students and Researchers, 8th Edition. As indicated earlier under the entry section, the researcher sought permission from the Graduate School Board at AIU. Institutional Ethical Research Board approval was also sought and granted by AIU's IERB board. In addition, the respondents completed a consent form developed by the researcher in which the respondents were assured of their confidentiality and that their responses only served for academic purposes. Also, the researcher availed a debrief form concerning the study. Finally, the researcher was working under the supervision of qualified individuals in the field of research, which means the research is guaranteed of its scholarly, worthiness, integrity and quality.

Summary

Chapter 3 covered the essential components of research design and methodology. These was the compass for conducting the entire research. In the following pages, the researcher presents the findings and the analyses of the data.

CHAPTER 4

FINDINGS AND DATA ANALYSES

Chapter 3 provided the research design and the methodological structure, as well as the data collection and analyses procedures used in conducting the study. Chapter 4 describes the findings of the study. The chapter presents the demographic characteristics of the respondents and it centres on the data analyses to answer the research questions. The key findings are presented with their interpretation to provide in-depth understanding of the subject under study (Creswell 2007). The prime purpose of the study was to investigate student perceptions towards online courses at Africa International University.

The data was collected by use of a questionnaire with closed ended items with a few open-ended items which discussed widely on the factors influencing students' perception of online courses. The researcher retrieved 57 questionnaires represented by 73% of the targeted respondents. The following section presents the descriptive analyses of the respondents and their characteristics.

Demographic Characteristics of the Respondents

This section discusses the demographic characteristics of the respondents.

The gender of the Respondents

Both male and female online students participated in the study. The researcher tried to administer the questionnaires evenly to both male and female students, but more than half of the respondents were males (n = 57, 54.4%) compared to females

shown by 45.6%. Table 3 therefore represents the respondents in terms of their gender.

Table 3: Table representing respondents in terms of their gender (n = 57)

Gender	Frequency	Percent
Female	26	45.6%
Male	31	54.4%
Total	57	100.0%

The Age Bracket of the Respondents

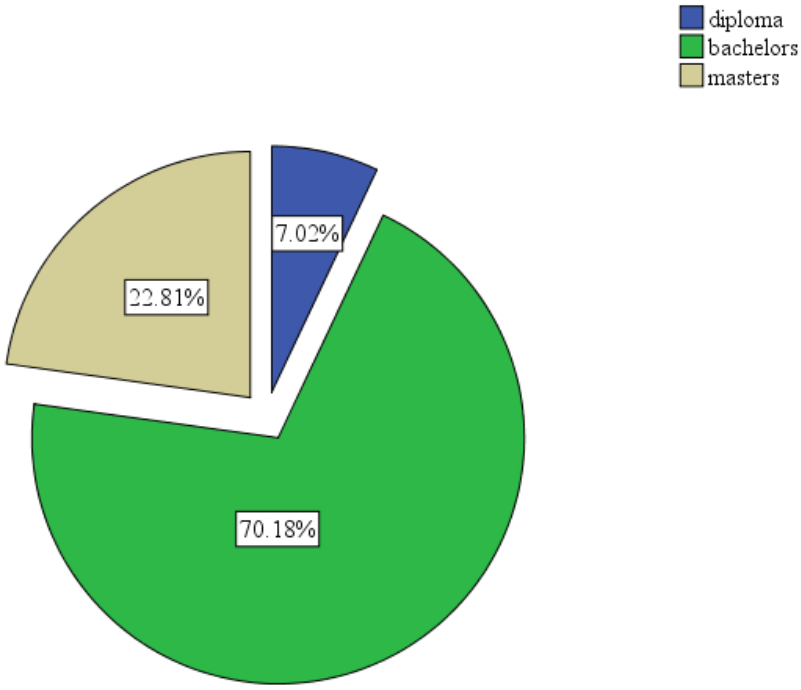
In addition to gender, the study established the age bracket of the respondents. Most students taking online courses were between the ages of 18 to 24 as well as 25 to 39 years. These was represented by 47.4% and 42.1% respectively. The lowest number of respondents fell under the age bracket of 40 and above years with a response rate of 6%. The summary of the age bracket in shown in table 4.

Table 4: Table representing the age bracket of the respondents (n = 57)

Age bracket	Frequency	Percent
18-24 years	27	47.4%
25-39 years	24	42.1%
40 & above years	6	10.5%
Total	57	100.0%

The Level of Education of the Respondents

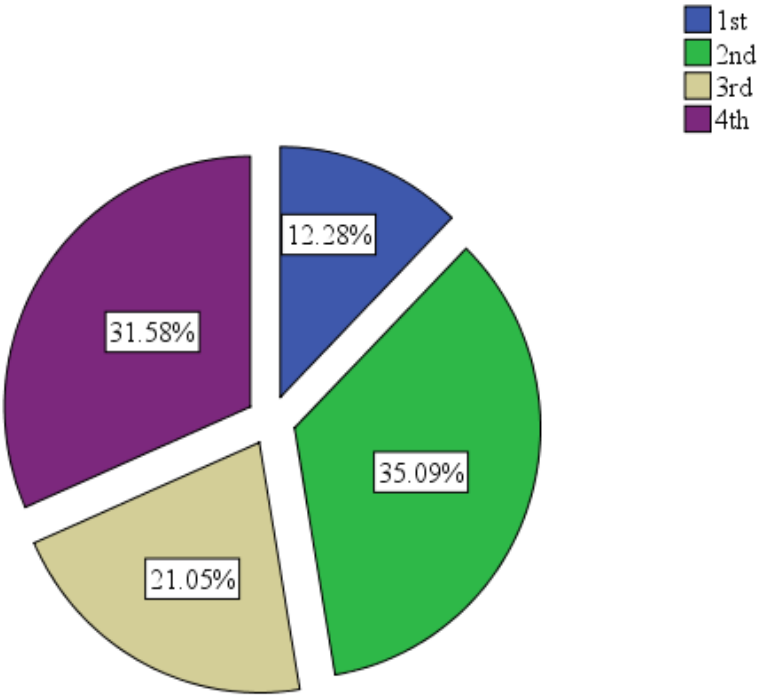
Also, the study established the level of education of the respondents. Most of the respondents were undergraduates represented by 70.2%, followed by those pursuing their masters at 22.8% and the lowest number of the respondents were the diploma students represented by 7% as shown in figure 2. The chart that follows represents the level of study of the respondents.



Graph 1: A graph representing the respondents' level of study

The Academic Year of the Respondents

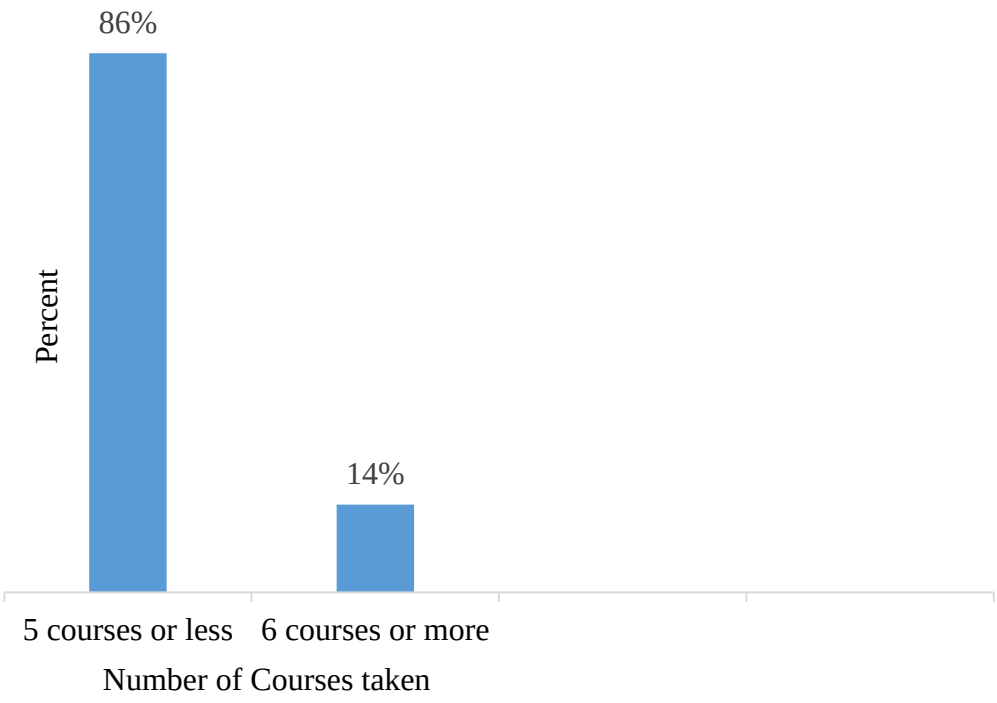
Likewise, the study sought to determine the academic year of study of the respondents. The highest number of participants were in the 2nd year represented by 35.1% and were trailed closely by the 4th year students at 31.6%. Considerable number of the respondents we the 3rd year students shown by 12% being followed barely by the 1st years at 7%. Figure 3 provides a brief synthesis of the respondents in terms of their academic year.



Graph 2: A graph representing the academic year of the respondents

The Number of Courses taken by the Respondents

Finally, under the demographic characteristics, the researcher determined the number of courses taken by the respondents. More than a third of the respondents represented by 86% had taken or were taking at least 5 online courses or less at the time of the study. Respondents who had taken or were taking more than 6 courses were represented by 14%. These findings are summed up in the graph that follows.



Graph 3: A Graph representing the number of courses taken by the respondents

Findings Based on the Study Hypotheses

The three hypotheses were tested in order to answer the research questions:

$H_0$1: There is no significant relationship between best practices and students' perceptions of online courses.

$H_0$2: There is no significant correlation between best student characteristics on students' perception of online courses.

$H_0$3: Challenges faced by students in online courses do not affect their perception of online courses.

Findings based on the Analysis of the Hypotheses

This section presents how the researcher tested the hypotheses and the results of the tests.

$H_0$1: There is no significant relationship between best practices and students' perceptions of online courses.

Spearman's rank correlation analysis was run to test this hypothesis. The correlation output is presented in Table 5.

Table 5: Correlation between best practices and students' perception of online courses

Spearman's rho		1	2
1. Students' perception of online courses	Correlation Coefficient	1.000	
	Sig. (2-tailed)	.	
	N	57	
2. Best practices	Correlation Coefficient	.930**	1.000
	Sig. (2-tailed)	.000	.
	N	57	57

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5 shows that a statistically significant positive correlation was obtained between best practices and students' perception of online courses (r = .930, p < .01, N = 57). The null hypothesis was rejected. There was a significant relationship between best practices and students' perception of online

The second hypothesis was also tested by spearman's correlation as follows.

$H_0$2: There is no significant correlation between best student characteristics on students' perception of online courses.

In order to test this hypothesis, spearman's rank correlation analysis was performed, and the results presented at p <. 01.

Table 6: Correlation between best student characteristics and perceptions of online courses

Spearman's rho		1	2
1. Students' perception of online courses	Correlation Coefficient	1.000	
	Sig. (2-tailed)		
	N	57	
2. Student characteristics	Correlation Coefficient	.928**	1.000
	Sig. (2-tailed)	.000	.
	N	57	57

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6 reveals that the relationship between student characteristics and their perceptions of online courses was statistically significant ($r = .928$, $p < .01$, $N = 57$). The null hypothesis was rejected. There was a significant correlation between student characteristics and their perception of online courses. This means that students' positive perception of online courses increased with increase students' positive online characteristics. The researcher used the students' level of satisfaction to determine their perceptions of online characteristics.

The third hypothesis was tested as follows.

$H_0$3: Challenges faced by students in online courses do not affect their perceptions of online courses.

The study sought to establish whether challenges faced by students in online courses affected their perceptions of online courses. Table 7 shows the correlation test of the hypothesis significant at $p <. 05$.

Table 7: Correlation of challenges faced by students online and perceptions of online courses

Spearman's rho		1	2
1. Students' perception of online courses	Correlation Coefficient	1.000	
	Sig. (2-tailed)	.	
	N	57	
2. Challenges faced online	Correlation Coefficient	.234	1.000
	Sig. (2-tailed)	.079	.
	N	57	57

Table 7 indicates that the relationship between challenges faced online and students' perception of online courses was not statistically significant (r = .234, p >. 05, N = 57). The null hypothesis was not rejected. Challenges faced by students online did not affect their perceptions of online courses. This finding implies the challenges the students faced online did not influence their perceptions of online courses.

Findings for the Research Questions based on the Descriptive Statistics

The researcher categorised the responses into three: 1) Best practices in online courses, 2) Best student characteristics in online courses and, 3) Challenged faced by students in online courses. With regard to the items, as mentioned earlier in Chapter 3, a mean of less or equal to 2.4 was interpreted as disagree, 2.5 to 3.4 was a neutral response of neither agree nor disagree while a mean of greater or equal to 3.5 was interpreted as agree. Table 8 summed up the value of the means and their interpretations.

Table 8: A Table showing means and their interpretations

Mean	**Interpretation**
Less or equal to 2.4	Disagree
2.5 to 3.4	Neutral (neither agree nor disagree)
Greater or equal to 3.5	Agree

RQ 1: In what ways do best practices influence students' perceptions of online courses?

Concerning the question on whether best practices influence students' perception on online courses, a mean of 3.35 showed that the respondents neither agreed nor disagreed based on the interaction between the online students and the online instructor. In addition, the respondents took a neutral ground denoted by a mean of 2.97 on whether the online instructor gave prompt feedback to students in the online environment. Also shown by a mean of close to 3.5, the respondents on agreed on the element of online instructor presence. In similar vein, the respondents agreed that they received help from the ODeL staff indicated by a mean of 3.51. Similarly, the respondents expressed that they were availed with additional reference materials in the virtual learning space shown by a mean of close to 3.5. Further, the respondents strongly agreed that the online courses were well organised at a mean of 3.91. Finally, the there was an agreement or strong agreement that online courses were provoked critical thinking among the learners. This was denoted by a mean of close to 3.8. Table 9 conveys the summary of the descriptive findings for RQ1.

Table 9: A Table representing respondents' response rate on best practices of online courses (n = 57)

Statement	Mean	Std. dev.
1. My instructors often interact with me in online courses	3.35	1.22
2. My instructor responds to my concerns immediately	2.97	1.16
3. My instructors appear at least once in a week in the online platform	3.49	1.15
4. I often get help from the ODeL support staff when I am stuck	3.51	1.18
5. Additional reference materials are available on the online platform	3.46	1.15
6. The online course is well organized	3.91	1.06
7. Activities in the online space encourage critical thinking	3.79	1.03

RQ 2: How do best student characteristics influence students' perceptions of online courses?

Considering the responses to best students' characteristics of online courses measured as per their level of satisfaction, the top characteristics which were strongly agreed or agreed upon included methods of course delivery, learner's self-discipline, interactivity, flexibility in time as well as reasonable course content. The respondents agreed that they were satisfied with the delivery methods of online courses shown by a mean of 3.61. There was a strong agreement that the respondents relied on own-self-discipline in the online environment at a mean of 3.83. Also, the respondents strongly agree that there was often interaction with their peers in the online space indicated by a mean of close 4.2. Correspondingly, majority of the respondents agreed they would take online courses in future over traditional courses denoted by a mean of close to 4. Moreover, there were respondents who agreed or disagreed on the element of them being motivated in online learning which was shown by a mean of around 3.2.

Subsequently, a considerable number of respondents denoted by a mean of near to 3.4 either agreed or disagreed about them being confident in an online class. In the same vein, revealed neutrality on whether their learning preferences were compatible with working online. This was evidence by a mean of 2.9. Likewise, there were respondents at mean of 3.11 who revealed that they spend less time doing online course assignments as compared to other non-related activities. Additionally, a reasonable number of respondents shown by a mean of close to 3.8 strongly agreed that online courses were convenient for them. Equally, there respondents took either agreed or disagreed on the aspect of them interacting more with their online instructor than their peers in the online platform represented by a mean of about 3. Last but not least, the respondents agreed that they spent less time on the computer which was symbolised by a mean of 2.7. Lastly, respondents at about 3.5 mean observed that there was less need for them to go on campus to attend to an online course. Table 10 represented the respondents' response rate on the best practices of online courses.

Table 10: A Table representing respondents' response rate on best student characteristics of online courses (n = 57)

Statement	Mean	Std. dev.
1. I am satisfied with online delivery methods	3.61	.96
2. I rely on my own self-discipline in an online course	3.83	1.18
3. I interact with my peers so often in the online environment	4.16	.94
4. I prefer face-to-face interaction over online interaction	3.97	1.05
5. I am motivated to learn in an online course	3.16	1.12
6. I feel confident when doing online courses	3.35	1.08
7. Working online is compatible with my learning preferences	2.90	1.26
8. I spend more time doing online assignments other than non-academic related activities	3.11	1.14
9. I think taking online courses is convenient	3.68	1.21
10. I prefer to interact more with the instructor than my peers in the online environment	2.98	1.20
11. I spent less time on the computer	2.70	1.30
12. There is less need to go on campus for an online course	3.46	1.30

RQ 3: To what extent do challenges faced by students in online courses influence their perceptions of online courses?

In response to the challenges faced by online students, the respondents agreed that the online course assignments were reasonable shown by a mean of around 3.4. Contrary to the reasonable amount of assignments the respondents agreed strongly that the online work was overwhelming for them shown by a mean of 3.8. Also, the respondents expressed agreement on them being able to download PDFs and PPT documents indicated with a mean of 3.6. Finally, respondents also disagreed that the

internet was fast on campus shown by a mean of 2.32, an aspect that was largely supported by over 50 percent of the respondents in the open-ended items. Table 11 represents response rates on the challenges faced by online students.

Discussion of the Findings

The study sought to examine factors influencing students' perceptions of online courses at Africa International University. The researcher gathered the demographic characteristics of the respondents. The researcher determined the gender, age bracket, the level of study, the academic year, and the number of online courses taken by the respondents at the time when the study was being conducted. The demographics were only expressing the dynamics that are at AIU and thus were not analysed. AIU is still at the inception stages of online courses and therefore the demographics here were only meant to understand the characteristics of the respondents and not necessarily analysing their data. However, the researcher tested three hypotheses: $H_0$1: There is no significant relationship between best practices and students' perceptions of online courses, $H_0$2: There is no significant correlation between best student characteristics on students' perceptions of online courses and $H_0$3: Challenges faced by students in online courses do not affect their perception of online courses.

After performing a spearman's rank correlation test, the researcher rejected the null hypothesis. This meant that there was a significant relationship between best practices and students' perception of online learning. The correlation coefficient r = .930 was close to 1 which signifies a close association between students' perceptions and best practices of online courses. Based on this viewpoint, students' positive perceptions of online courses increased with implementation of best practices. Literature has also proven that online learning is greatly supported by best practices

(Watson & Gemin 2008; Savery 2005; Zemelman, Daniels, & Hyde 2005). From a synthesis of scientific studies done between 1996 and July 2008, research shows that the students who took online classes performed better than those in traditional classes because of best practices of online courses such interactive online approaches (U.S. Department of Education 2010). Comparing the result here with the responses from the open-ended items, over 50% of the students were of the view that regular presence of the online instructor enhanced the discipline of the learners in terms of them being active in the online space.

The study also rejected the second null hypothesis. The correlation of $r = .928$ showed that best students' characteristics closely related to their perceptions of online courses. Therefore, there was a significant correlation between student characteristics and their perception of online courses. This meant that students' positive perception of online courses increased with increase in best students' positive online characteristics. Literature discusses several aspects of online student characteristics. First, the online student is an independent learner who learns at her own pace even though she may receive direction from the online instructor. Second, the online student has the autonomy of making decisions such as completing weekly assignments, posting on discussion forums and submitting assignments. Third, the online student has basic knowledge of computer such as typing in MS Word, sending and receiving emails. Fourth, the learner should be flexible with time (Cashion & Palmieri 2002). Also, Volery and Lord (2000) points to characteristics such as motivation, brainpower and computer knowledge as key to excelling in online courses. Smith and Morris (2003) on the contrary argue that not all university students can be computer proficient. Students should receive training on basic computer skills in the universities to remove deficiencies in online learning. Universities need experts

with computer technology to teach in online environment (Salmon 2000; Gerrard 2002).

Finally, the study rejected the last null hypothesis. The correlation coefficient shown as $r = .234$ signified that there was disparity in the relationship between challenges faced by students in online courses and their perceptions of online courses thus not statistically significant. This finding implied that the challenges the students faced online did not influence their perceptions of online courses. From the study the key challenges were intermittent internet on campus and overwhelming coursework. However, these challenges did not affect students' perceptions of online courses.

Summary

Chapter 4 has presented the findings and analyses of the study on the factors influencing students' perceptions of online learning. The researcher has summarized the data in terms of tables, pie charts and a bar graph. Also, the researcher tested the hypotheses.

CHAPTER 5

SUMMARY, RECOMMENDATIONS AND CONCLUSION

The purpose of the study was to examine the factors influencing students' perceptions towards online courses at Africa International University. Three research questions guided the study: 1) In what ways do best practices influence students' perception of online courses? 2) How do best student characteristics influence students' perception of online courses? 3) To what extent do challenges faced by students in online courses influence their perception of online courses?

Summary

Chapter 1 of the study incorporated literature related to the situation globally, internationally and locally in the Kenyan context. The problem statement covered empirical studies on how the situation has been addressed so far. In chapter 2, the literature reviewed under this study, established three independent variables; best practices of online courses, best student characteristics of online courses and challenges faced by students in online courses. The dependent variable was the students' perceptions of online courses.

The literature (Watson & Gemin 2008; Savery 2005; Zemelman, Daniels, & Hyde 2005) showed that best practices do influence positive students' perceptions of online learning. This was affirmed by this study because the null hypothesis that there was no significant relationship between best practices of online courses and students' perceptions of online courses was rejected. Indeed, there was a significant relationship between best practices and students' perception of online learning where $r = .930$, $p <$

.01, and $N = 57$). This means that students' positive perception of online courses increased with implementation of best practices.

Literature also revealed that best student characteristics relate to their perceptions of online courses. Evident characteristic included: peer interaction, convenience and flexibility, the critical thinking as well as student self-discipline influence students' perceptions on online courses (Barcelona 2009; Yang & Durrington 2010; (Drennan, Kennedy, & Pisarski, 2005, as cited in Dobbs, Waid, & del Carmen, 2009). Based on this argument, the study acknowledged that best or positive student characteristics do influence students' perceptions of online courses. The researcher discovered this after performing a spearman's rank correlation of the second null hypothesis; there is no significant relationship between best students' characteristics of online courses and their perceptions of online courses. This null hypothesis was in turn rejected. Therefore, the study revealed that there was a significant correlation between student characteristics and their perception of online courses. This signified that students' positive perception of online courses increased with increase in students' best online characteristics.

Finally, literature was contrary to the findings of the study on the basis of the challenges that students faced in online courses. Literature revealed that challenges such as intermitted internet connection, time management, bulkiness of course content among others, influenced students' perceptions negatively courses (Hadullo 2010; Nyagorm 2014; Maina and Nzuki 2015; Ndigirigi 2012; Muuro et al 2014; Wamae 2011). However, this study affirmed that challenges faced by students online do not affect their perceptions of online courses. The study rejected the last null hypothesis; challenges faced by students in online courses do not affect their perceptions of online courses. The correlation coefficient shown as $r = .234$ denoted that there was variation

in the relationship between challenges which implied that the challenges the students faced online did not impact their perception of online courses.

Conclusions

In a nutshell, the study found that students' perceptions were influenced by best practices and best students' characteristics. However, the challenges faced in an online class did not change students' perceptions of online courses. The researcher therefore concludes that since we are in the era of digitalizing education, universities have no choice but to take up the challenge to adopt online learning due to the rapid increase in the number of students and try to work on best practices of online courses. The Web-based teaching currently serves as a unique tool for teaching and learning (Macharia and Pelser 2012).

In light of the reviewed literature the examination of the factors influencing students' perceptions of online learning are key to the success of students taking online courses. The researcher also concludes that both theory and practice of online learning cannot be detached. As seen in the theoretical orientation of this study, the behaviour of online students must be apprehended by the online instructors in order to meet the desirable learning outcomes in e-learning. According to behaviourists, the observable traits of the students is what is to be shaped in order to achieve the educational goals (Anderson and Elloumi 2004, 7). In a similar vein, the researcher concludes that the learners need to be provided with the opportunity to solve problems in the virtual space, they have a cognitive mind that need to be engaged with lots of activities such as quizzes, puzzles and many more in the online space (Alley 2004). The researcher also ties the theory of constructivism to the study which argues that after the online learners have processed the online course content they have the

capacity to become innovators who can create new knowledge (Janicki & Liegle 2001).

From the findings of the study, the researcher concludes that best practices of online courses such as online course content, its organisation and delivery methods, frequent communication with students and feedback on grading are fundamental to successful online learning. In addition, students' characteristics are determined by their confidence in taking online courses, their flexibility with time of completing tasks, their motivation and self-discipline as well as regular interactions between themselves and the instructors. Finally, this study established that there are challenges that students face in online courses; however, these challenges do not affect students' perceptions of online courses.

Recommendations

The researcher's recommendations are as follows:

Recommendations to AIU

First, AIU needs to carry out regular workshops to train online instructors and provide them with the knowledge and skills on best practices in online courses. Second, this study can be used as a basis to develop a manual guide for training online instructors at AIU. Third, online instructors should seek time to time evaluation from students on what they prefer to be improved in the online learning space. Third, every online instructor should do a pre-survey of the online students in order to understand their behaviour in terms of learning styles and preferences other than basing on self-conceived learning outcomes. Fourth, even though challenges faced by students' perceptions in online learning do not affect their perceptions, universities should

ready themselves with the necessary infrastructure such as the internet and the technical support staff.

Recommendations to the Policy Makers

The researcher recommended to the Government of Kenya, the Ministry of Education and the Commission of University Education to come up with task force or experts in e-learning to ensure that this mode of learning is fully implemented in the universities. Also, the government of Kenya should liaise with both public and private universities, in supporting them with the infrastructure dedicated for online courses. The Ministry of Education should as well work together with the Kenya Institute of Curriculum Development to ensure there is a curriculum to guide in training online teaching faculty in the universities.

Recommendation to the ODeL Department

Lastly, the researcher recommends to students at AIU to embrace the online technology by seeking training in computer skills and also seek support from their instructors and the ODeL support staff whenever they feel stuck.

Recommendation for further Studies

To scholars, the researcher recommends a similar study be done in several universities in order to have a significant population. There is need to find out whether students in the public and other private universities other than AIU share similar or divergent perceptions of online courses. In addition, there is need to have a study done on faculty preparedness to teaching online courses as well as their perceptions and experiences with the online learners.

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APPENDIX A: QUESTIONNAIRE FOR STUDENTS

The questionnaire items is formulated to respond to the following research questions:

1. In what ways do best practices influence students' perception of online courses?
2. How do best student characteristics influence students' perception of online courses?
3. To what extent do challenges faced by students in online courses influence their perception of online courses?

Instructions

This questionnaire is for collecting data for research to examine Factors influencing Students' Perceptions of Online Courses at the Africa International University and it is hoped that the information you give will be useful in this educational research. Be assured that all the information you give will only be used for this research purpose.

Part 1: Biographic Information

You are requested to respond to all statements in each section.

Put a tick √ against appropriate response to each statement.

1. Level of study:

   Diploma _____ Bachelors _____ Masters _____

2. Your year of study

   1st _____ 2nd _____ 3rd _____ 4th _____

3. Gender:

   Female _____ Male _____

4. Age bracket:

   18-24 years _____ 25-40 years _____ 40 and above years _____

5. How many courses have you taken online so far?

   5 courses or less _____

   6 courses and more_____

Part 2: Closed-ended Items

Read carefully and fill in the table against the appropriate statement with a tick √

Ranking scale: **SA**=Strongly Agree **A**=Agree **N**=Neutral **D**=Disagree **SD**=Strongly Disagree

Item no.	**STATEMENT**	**SA (5)**	**A (4)**	**N (3)**	**D (2)**	**SD (1)**
	Best Practices of Online Courses					
1.	My instructors often interact with me in online courses					
2.	My instructors avail weekly notes for me					
3.	My instructor interacts with me on daily basis					
4.	My instructor responds to my concerns immediately					
5.	My instructors appear at least once in a week in the online platform					
6.	Activities in the online space encourage critical thinking					
7.	The online course is well organized					
8.	My instructor keeps me posted with new information about the online course					

9.	My instructor prefer to send feedback through email					
10.	I regularly receive prompt email responses from the teacher via the online website					
11.	I skilfully make use of the online environment					
12.	I can do every task online without support					
13.	I often get help from the ODeL support staff when I am stuck					
14.	Additional reference materials are available on the online platform					
15.	I often receive the receipt of assignments submitted and email messages sent to the teacher					
	Students' Characteristics of Online Courses					
1.	I am satisfied with online delivery methods					
2.	I prefer face-to-face interaction over online interaction					
3.	I rely on my own self-discipline in an online course					
4.	I value flexibility of study time in an online course					
5.	I spent less time on the computer					
6.	There is less need to go on campus for an online course					
7.	I am motivated to learn in an online course					
8.	I practise online integrity during online courses					
9.	I often delay to submit online courses					
10.	Frequently I check for new forum posts on the forum discussions					
11.	I often listen to uploaded videos in online courses					

12.	I interact with my peers so often in the online environment					
13.	My peers react on my posts on the discussion forums					
14.	I find it so easy to post on other students' discussion topics					
15.	The resources uploaded on the online platform are useful to my course and area of student					
16.	The online courses allow me to work at my own pace					
17.	Online courses do meet my needs and expectations					
18.	I prefer to interact more with the instructor than my peers in the online environment					
19.	I prefer to interact more with my fellow students than the instructs in the online space					
20.	I think learning online is enjoyable					
21.	I think online learning is fun					
22.	I think taking online courses is convenient					
23.	I can save time by taking online courses					
24.	Taking online courses enables me finish my program of study quickly					
25.	Taking online courses increases my productivity					
26.	I spend more time doing online assignments other than non-academic related activities					
27.	Working online is compatible with my learning preferences					
28.	I expect to be proficient in taking online courses					
29.	I feel confident when doing online courses					
30.	I have the knowledge, skills and resources to enable me work on my own in the online environment					

31.	My submitted assignments are graded immediately					
	Challenges faced by Students in Online Courses					
1.	The bulk of work in an online course is overwhelming					
2.	I easily access uploaded syllabus, pdfs, PPT for offline reading					
3.	The assignments for online courses are too bulky for me					
4.	The assignments in an online class are reasonable					
5.	Internet connection on campus is fast					
6.	The internet on campus is slow, I find it too hard to download large resources					
7.	Most of my online colleagues do not respond to my courses					
8.	Online courses require more of my time to study over the face-to-face classes					

APPENDIX B: OPEN-ENDED QUESTIONS

1. Explain in a paragraph about what you are pleased with an online course?

   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

2. Do you think your interaction and the teacher in an online class promotes your learning? _____

   Explain in a few words

   _____
   _____
   _____
   _____
   _____
   _____
   _____

3. Do you think the design and the learning activities incorporated in the online courses are helping you in any way? _____

   Briefly explain

   _____
   _____
   _____

4. Discuss the challenges you face when taking an online course.

5. List down what you might like to be improved and also suggest how they can be improved

APPENDIX C: PARTICIPANT CONSENT FORM

I am Edward Aligula, a student at Africa International University where I am pursuing a Master of Education degree. As part of my degree requirements I am completing a research study and I would like to include you in the study. My research supervisor at AIU, Dr. Rosemary Mbogo may be contacted by email at rosemarywmbogo@gmail.com or phone +2547322443794 if you have any questions at any time.

Your written consent is required to participate so that I can confirm that you have been informed of the study and that you agree to participate. You are free to decline or discontinue your participation at any time during the study if you wish to do so. All information obtained in this study will be kept confidential; a number will be assigned to any research forms to ensure your privacy is protected. Your name or identify will not be given in any report or publication.

The purpose to examine the Factors influencing Students' Perceptions of Online Courses at Africa International University. You will be asked to complete a questionnaire answering questions about your perceptions towards online courses. This is not an exam or a test, there is no deception in these questions, and there are no right or wrong answers, simply answer the questions as honestly as you can. The questionnaire forms should take about 10 minutes but no longer than 30 minutes to complete in one sitting. A demographic form including your age and other basic information will also be requested.

The outcome of the information obtained during this research will be summarized and utilized in my thesis study. Participant names will not be utilized, as shown below a number will now be assigned to ensure your identity is kept confidential during and after this study is completed.

My Consent to Participate:

By signing below, I consent to participate in this study.

_____ _____

Signature of Participant Today's Date

_____ _____

Principal Researcher Today's Date

Participant Number to be used on all documents: _____

APPENDIX D: PARTICIPANT DEBRIEF FORM

Dear Respondent,

Thank you for participating in this research study. The purpose of this study is to examine the Factors influencing Student Perceptions of Online Courses at Africa International University. Your participation will help researchers, online course designers and teachers and policy makers to gain more insights on the current student perceptions of online courses.

In the event you have any concern about the questionnaire presented to you in this study, you may write to me via my email at edward.aligula@africainternational.edu or call +254715689107, I will promptly address your concerns.

Once again thank you for your participation.

Sincerely

Edward Aligula

APPENDIX E: CURRICULUM VITAE

PERSONAL DETAILS

Name: Edward Aligula Mmbege

Sex: Male

Date of Birth: 1985

Place of Birth: Vihiga County, Kenya

Nationality: Kenyan

Telephone: +254 731 462378; +254 715689107

Email: edwardaligula@gmail.com

CAREER OBJECTIVE

To be a distinguished educator and servant-leader in equipping members of society using my knowledge from Bible and Theology as well as Education (with an emphasis in Curriculum and Instruction).

EDUCATION AND QUALIFICATIONS

2015-2018: Africa International University – Med: Masters in Education (Curriculum and Instruction) Candidate – Research Topic: Factors Influencing Students' Perceptions of Online Courses at Africa International University

Provisional GPA: 3.63/4

2010-2013: Hope Africa University (Burundi) – BTh: Bachelor of Bible and Theology – Attained a degree with Honors

2008-2009: Friends Theological College, Kaimosi – started a degree in Theology then transferred to Hope Africa University

2001-2004: Mbihi Secondary School – Attained Kenya Certificate of Secondary Education with a C+

1991-1998: Moses Mudavadi Primary School (Mululu) – Kenya Certificate of Primary Education scoring 481/700

LANGUAGE SKILLS

English, Kiswahili, Kirundi and French (Basic), and Lulogooli

WORK EXPERIENCE

AUG 2018-DATE: Assistant Training Coordinator – Africa Services

JAN 2018-DATE: Assistant Editor – Utafiti Foundation Research and Documentation Center

AUG 2017: General Election Presiding Officer at Kaptis, Hamisi Constituency, Vihiga County

Gained leadership and organizational skills in the electoral process

2017: Customer Service Representative – Horizon Contact Centers

Gained knowledge about Telkom Company and soft skills of clients' complaints

2017: Leader of the Amigos Teens Ministry at Africa International University

2016: Teaching Internship at Africa International University

- Developed and taught online courses; Educational Research as well as Instructional Technology
- Prepared course materials such as syllabi and PowerPoint slides among others
- Enhance robust classroom and online interactive activities
- Managed an online course website of Philosophical Foundations of Education

2014 to 2015: Part-time teacher at Hope Africa University – Courses taught include: General Pedagogy, Sociology of Education, English and Kiswahili as second language

2014: Director of the Kindergarten at Global Premium School

2013 to 2014: Teacher of English as a second language at Hotel Club du Lac Tanganyika and Burundi Logos Translators Company

2007 to 2009: Teacher at Emmanson Academy at Racecourse, Nairobi

2005 to 2006: Salesman at Kakamega

LEADERSHIP ROLES AND RESPONSIBILITIES

2016 to Date: Graduate Student Representative at Africa International University

2015 to 2017: Chairperson of the Debate Club; Class Representative

2015 to Date: National Youth Leader of the Scriptural Holiness Mission (SHM)

2015 to Date: Founder and Director of Kids Vocational Bible Study at Sirwa SHM Local Church

2012 to 2013: Vice President and the Spiritual Leader of the Kenyan Student Association in Burundi

2008 to 2010: National Youth Secretary of the TransAfrica National Conference, Free Methodist Church of Kenya

2006 to 2008: District Youth Leader, Free Methodist Church of Kenya

2001 to 2004: Mbihi Secondary School – served as the Head Student, Timekeeper/Bell ringer, Chairperson of the Christian Union Chairperson, Chairperson of the Debating Club and Journalism Club News Editor

MEMBERSHIP AND ASSOCIATIONS

2015 to Date: Member of the Debate Club at Africa International University

2016 to Date: Member of the Writers Club at Africa International University

2016 to Date: Team Member of the Edu World Career Consultancy Company

2014 to 2015: Member of the Bujumbura International Social Workers

CONFERENCES

FEB 2018: Attended Global Leadership Summit held at Christ Is The Answer Ministries (CITAM) Valley Road

JULY 2015: Participated in the Church Leaders Training Conference held at Clarence Matheny Ministries at Kiserian

MARCH 2014: Participated in the Bujumbura International Social Work Conference, Burundi

SYMPOSIUM

2016: Presented a paper on *Faculty Preparedness to Teaching Online Courses at Africa International University*

PUBLICATION

2017: Published a refereed academic journal on *Undergraduate Perceptions on the Usage of Library at Africa International University, Karen Campus, Nairobi*

EXTRA CURRICULAR AND VOLUNTARY ACTIVITIES

OCT 2015: With colleagues, we laid a foundation of a new building at Technical University, Gitega town, Burundi

AUG 2014: Participated in the Bujumbura International Marathon

DEC 2013: Tree Planting at Wangari Maathai Forest in Burundi

Donated Food and Clothes to children at Jabe Orphanage, Burundi

OCT 2013: Organized Cultural Festival Week at Hope Africa University

OCT 2010: Participated in the Kenya-Burundi Friendship Week's activities

2008 to 2009: Ministered at Kaimosi Junior School and Kaimosi Special School respectively

2001 to 2004: Played Volley, participated in drama, debate and inter-school symposia as well as news casting on assembly days

HOBBIES AND INTERESTS

Following news, creative writing, acting, church ministry, socialising

REFEREES

Available upon request