THE RELATIONSHIP BETWEEN e-LEARNING AND KISWAHILI LANGUAGE STUDENTS' ACADEMIC ACHIEVEMENT IN SELECTED UNIVERSITIES IN KENYA

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A Thesis Submitted to the School of Education in Partial Fulfillment of the Requirements for the Award of Doctor of Philosophy Degree in Educational Communication and Technology of
Machakos University

SEPTEMBER, 2024

DECLARATION

I declare that this thesis is my original work and has never been presented in any other academic institution for consideration of award of any degree or any certification.

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Supervisors' Declaration

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DEDICATION

I dedicate this work to my dear children Fredrick, Naomi, Yvonne, Derrick, Mary Clarissa, my beloved parents Josphat Musango Kavoi, Late Mary Mwongeli and all my siblings.

ACKNOWLEDGEMENT

With joyful simplicity I thank the Almighty for His graces, goodness, and provident care enabling me to undertake this study successfully. Oh! How good is the good God (St. Julie Billiart). My sincere appreciation is extended to my immediate boss Geofrey Mbaluto for the great understanding and moral support he offered me during my study period. Special gratitude to my supervisors Dr. Mutua and Prof. Fredrick Ogola respectively for their great scholarly advice and perpetual encouragement throughout my research period and all lecturers in the Department of Educational Communication and Technology headed by Prof. Embeywa.

My gratitude also goes to National Commission for Science Technology and Innovation (NACOSTI) for granting me permit to undertake my research, the Registrars (Research Innovation and Linkages) in Machakos, CUEA and Murang'a Universities respectively for data collection authorization through their Vice Chancellors, not forgetting the ODeL Directors; Prof. Peter Kibet Koech (Machakos University), Mr. Wilfred Chege (CUEA University), Dr. Gabriel Kamau (Murang'a University), Kiswahili Language Lecturers and all Kiswahili language students of the three Universities for their great co-operation.

Much gratitude to my dear dad Josphat Kavoi who kept track of my studies to the end as well as my Beloved children Fredrick, Naomi, Yvonne, Derrick and Mary Clarissa; for their moral support and patience during my long absence from home when they greatly needed me. Finally, my deep appreciation to Fr. Daniel Mwanzia who tirelessly and dedicatedly offered Mass for me every time I had examination and proposal defense always ending successfully, I humbly thank all my friends and colleagues who supported, encouraged, prayed for me and gave inspirations during my study.

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ABBREVIATIONS AND ACRONYMS

AACR	Anglo-America Cataloguing Rules
BA	Bachelor of Arts
BAKITA	Baraza la Kiswahili la Taifa
BED	Bachelor of Education
CAT	Continuos Assessment Test
CBA	Computer Based Assessment
CD	Compact Disc
CD-ROM	Compact Disk-Read Only Memory
CHAKITA	Chama cha Kiswahili cha Taifa
COD	Chairman of Department
COVID-19	COrona Virus Disease of 2019
CUE	Commission for University Education
CUEA	Catholic University of East Africa
DA	Digital Assessment
DIR	Director
DT	Distance Teaching
DVD	Digital Video Disc
EA	Electronic Assessment
e-Assessment	Electronic Assessment
e-Journal	Electronic Journal
e-Learning	Electronic Learning
e-Library	Electronic Library
e-Mail	Electronic Mail
e-Notes	Electronic Notes

e-Resources	Electronic Resources
FTP	File Transfer Protocol
GPA	Grade Point Average
HTML	Hyper Text Markup Language
ICT	Information Communication Technology
IFLA	International Federation of Library Association
IT	Information Technology
LMS	Learning Management Systems
MOE	Ministry of Education
MOOCs	Massive Open Online Courses
NACOSTI	National Commission for Science, Technology and Innovation
NCES	National Center for Education Statistics
OA	Online Assessment
OdeL	Open Distance and e-Learning
OECD	Organization for Economic Co-operation and Development
PBAF	Profile-Based Authentication Framework
PDF	Portable Document Format
PhD	Doctor of Philosophy
SARS	Severe Acute Respiratory Syndrome
SDT	Self Determination Theory
SMS	Short Message Service
SPSS	Statistical Package for the Social Sciences
TA	Thematic Analysis
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children Emergency Fund

UNISA	University of South Africa
US	United States
VC	Vice Chancellor
VR	Virtual Reality
WHO	World Health Organization
Wi-Fi	Wireless Fidelity
WWW	World Wide Web

ABSTRACT

Kiswahili is the most spoken language locally and in Africa. Despite its importance, academic achievement of Kiswahili students in Universities in Kenya has been unsatisfactory as evidenced by low levels of spoken and written skills as well as performance in examinations. The unsatisfactory achievement in Kiswahili is of great concern since it reduces chances of its graduates to gain employment in fields that require mastery of the language. The purpose of this study was to examine the relationship between e-Learning and achievement among Kiswahili language students in selected Kenyan Universities. The study was deemed necessary because the available literature does not seem to examine the relationship between e-Learning and Kiswahili language academic achievement. This study was guided by four objectives; to determine the relationship between use of e-Resources and Kiswahili language students' academic achievement, to establish the relationship between adoption of e-Assessment and Kiswahili language students' academic achievement, to assess the relationship between utilization of Learning Management System (LMS) and Kiswahili language students' academic achievement and to determine the relationship between the provision of e-Learning support services and Kiswahili language students' academic achievement in selected Universities in Kenya. The study was informed by Moore's Theory of Transactional Distance and Self Determination theory. The sample size was 9 Kiswahili language lecturers, 3 Directors of ODeL Centers and 300 Kiswahili language students who were selected through purposive sampling and simple random sampling respectively. The research instruments were piloted and reliability index of 0.82 was obtained therefore the instruments were deemed reliable. Qualitative data was analyzed using Thematic Analysis (TA). Quantitative data was analyzed using both descriptive and inferential statistics. Descriptive statistical methods included percentages and means. Inferential statistical methods used were Pearson Moment Correlation Coefficient and Regression analysis. Frequencies and percentages were used to summarize and describe data whereas Pearson Moment Correlation and Regression were used to establish relationships. Data analysis was done using Statistical Package of Social Sciences (SPSS) version 28.The findings established that; use of e-Resources had significant relationship with Kiswahili language students' academic achievement ($r = 0.237$, p-value=0.000), use of e-Assessment did not have a significant relationship with Kiswahili language students' academic achievement ($r=0.870$, p-value=0.05),use of LMS had significant relationship with Kiswahili language students' academic achievement ($r=0.129$, p-value=0.040) and use of e-Learning support services had significant relationship with Kiswahili language students' academic achievement($r=0.142$, p-value=0.240).The study recommends that Universities should; adopt policies and incentives that encourage lecturers to integrate e-Resources into their teaching, overcoming resistance to digital change, develop policies to ensure that all students, regardless of their financial status , have equal access to e-Assessment opportunities, invest in upgrading LMS infrastructure and technology to improve accessibility and engagement and Universities to develop and implement guidance and counseling services focused on supporting students' well-being and academic success in an e-Learning environment. The study concluded that; use of e-Resources, utilization of LMS and provision of e-Learning support services positively affect academic achievement whereas adoption of e-Assessment does not have effect on academic achievement therefore a need for further exploration on how e-Assessment can positively affect academic achievement in Kiswahili language.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the background to the study, statement of the problem, purpose of the study, research objectives, research hypotheses, significance of the study, limitations, delimitations and assumptions of the study and the operational definitions of key terms.

1.1 Background to the study

e-Learning refers to information use and communication technology devices to enables access to online learning and teaching resources. Abbad, Morris and Nahlik (2009) elaborated e-Learning as any learning that is enabled electronically. According to Organization for Economic Cooperation and Development (2005) e-Learning is defined as the use of information and communication technologies in diverse processes of education to support and enhance learning in institutions and includes the usage of information and communication technology as a compliment to traditional classrooms, online learning or mixing the two. Therefore, e-Learning is used as an alternative to traditional teaching.

The integration of e-Learning into Universities has sparked significant interest and debate regarding its impact on students' academic achievement. With the advancement of technology and the widespread availability of online resources, Universities across the globe are increasingly adopting e-Learning platforms to supplement traditional classroom instruction. Understanding the relationship between e-Learning and students' academic achievement is crucial for educators, policymakers, and stakeholders to

optimize learning outcomes in University settings. This is crucial in making informed decisions on how to use e-Learning to enhance learning outcomes.

Numerous global studies have investigated the correlation between e-Learning and academic achievement in Universities. Research conducted by Al-Fraihat, Joy, Masa'deh, and Sinclair (2020) examined the perceptions of Jordanian University students towards e-Learning during the COVID-19 pandemic and found a positive correlation between e-Learning effectiveness and academic achievement. Similarly, a meta-analysis by Means et al. (2013) synthesized data from multiple studies and concluded that students enrolled in online courses tend to perform as well as or better than those in traditional face-to-face courses. Hence, a positive relationship between e-Learning and academic achievement.

However, the relationship between e-Learning and academic achievement is influenced by various factors, including instructional design, technology infrastructure, student characteristics, and institutional support. For instance, a study by Song et al. (2021) in China highlighted the importance of interactive and engaging e-Learning materials in enhancing students' academic performance. Conversely, research by Hachey et al. (2012) in Canada emphasized the significance of faculty training and support in leveraging e-Learning tools effectively. Infrastructure is key for enhancing learning outcomes in e-Learning.

Furthermore, cultural and contextual differences play a significant role in shaping the relationship between e-Learning and academic achievement. A comparative study by Almulhim and Almulhim (2018) explored the perceptions of Saudi and American University students towards e-Learning and found cultural factors do influence students' engagement and success in online courses. Similarly, research by

Nkuyubwatsi et al. (2017) in Rwanda highlighted the importance of considering socio-economic factors and access to technology in promoting equitable outcomes in e-Learning environments. These factors greatly influence learning outcomes.

In addition to academic performance, studies have also investigated the impact of e-Learning on students' satisfaction, engagement, and retention. Research by Artino (2010) in the United States identified a positive association between students' satisfaction with e-Learning experiences and their overall academic success. Moreover, a longitudinal study by Owusu-Fordjour et al. (2020) in Ghana revealed that students' engagement with online learning materials positively correlated with their retention and completion rates in university courses. This suggests that Students' characteristics greatly influence academic achievement.

In Africa, the first University to offer ODeL was University of South Africa (UNISA) in 1946. Its success to the program led to widespread of open Universities mainly in Nigeria, Tanzania and Zimbabwe. Pityana (2009) elaborates ODeL as a viable cost-effective means of expanding provision of education without costly outlay in infrastructure. He continues to argue that there are several challenges and setbacks to the program. This may include; internet connectivity, inadequate infrastructure, lack of trained cadre of trained professionals to implement the program. This indicates that these factors should well addressed in order to make e-Learning programs successful.

The National Education Association (2000) explains that the effective use of distance education technology requires that teachers be properly trained and technologically literate. The absence of clearly defined ODeL policies is also a problem in most countries and institutions. Juma (2003) notes that ODeL practice in many countries is delivered by different institutions, each governed by its own institutional policies.

When the coronavirus pandemic forced educational institutions to close, all students were forced to study online (Hess, 2021). Well-trained staff is a key factor in successful e-Learning.

Universities immediately had to adjust to remote learning and many courses were taken online while students were at home. Generally, internet-based learning is considered an option and an alternative to traditional learning (Aboul El-Seould, Saddick, Taj-Eddin, Ghenghesh, Nossier& El-Khouly, 2014). Juma (2003) posit that prior to the emergence of distance learning providers in Africa, many African students obtained various academic qualification through ODeL programs in Europe and North America. The main advantage of distance learning is that, regardless of location and distance one is able access education.

Studies show that e-Learning offers many benefits for students because this type of learning involves student-centeredness, it is more flexible (Dhawan, 2020) and it can also improve interaction with students by providing asynchronous and synchronous tools such as emails, chart and video conferences. UNESCO (2020) states that the common features of e-Learning are spatial or temporal separation and the use of media and technology to enable communication and exchange during the learning process. This is believed to be achieved through print-based learning, one-way broadcasting or the web (social media and learning platforms). This suggest that e-Learning tends to require high levels of self-direction on the part of students, and study skills that have to be supported through new teaching, learning and guiding strategies.

UNESCO continues to state that distance learning broadly is synonymous with online learning, e-Learning, correspondence education, remote studies, flexible and Massive Open Online Courses (MOOCs) was used for continuity of Education. e-Learning is

considered a new solution to bridge the inequitable gap in education in many developing countries such as Pakistan, Nigeria and Thailand (Iqbal & Ahmed, 2010). Several approaches in e-Learning includes: Massive Online Open Courses (MOOCS), Virtual Reality (VR) and gamification which have been designed for students in leading educational centers to support their own cultures (Folorunso, Ogunesey & Sharma, 2006). These courses are available worldwide.

There has been increased rapid expansion of Universities in Kenya in the last few decades. This has been brought by increased demand for higher education resulting from increased awareness of positive benefits of education (Khan, 2001). This demand had led to acceptance of ODeL as part of learning program and mainstream educational platform in both developed and developing countries with particular emphasizes in the developing countries (UNESCO, 2002). The increased interest to distance learning has been due to several factors which includes family commitments.

The growing need for continued skills upgrading and re-training and technological advances has easened teaching at a distance. The flexibility of open distance and

e-Learning methodologies has been the key factor in their emergence as the primary mode for lifelong learning. Technology is an integral part of the teaching and learning approach (Wakahiu & Kang'ethe, 2014). This indicates that timely trainings for digital skills improves e-Learning process. In recent years, Kenyan Universities have witnessed a significant expansion of e-Learning initiatives, driven by advances in technology and the need to address access and quality challenges in higher education.

The Government of Kenya's Digital Literacy Program and various University-led initiatives aim to leverage e-Learning platforms to reach a wider student population and enhance learning outcomes. A study by Macharia et al. (2020) examined the growth of

e-Learning in Kenyan Universities, highlighting its potential to democratize access to education and promote lifelong learning. This shows that the expansion has greatly been embraced by many Universities in Kenya. Several studies conducted in Kenyan Universities have explored the impact of e-Learning on students' academic achievement, providing valuable insights into the dynamics of digital learning environments.

A study by Nyagah et al. (2018) investigated the effectiveness of an e-Learning platform in improving student performance in mathematics courses in a Kenyan University. These findings revealed a positive relationship between engagement with online resources and academic achievement, emphasizing the importance of interactive and student-centered e-Learning approaches. The e-Resources are key elements in the e-Learning process for increased academic achievement. While e-Learning holds the promise of increasing academic achievement, its implementation in Kenyan Universities is not without challenges.

Limited access to reliable Internet connectivity, inadequate infrastructure, and digital literacy gaps between students and teachers have emerged as significant barriers to widespread adoption of e-Learning. A study by Kariuki and Mwai (2019) identified these challenges and emphasized the need for targeted interventions to address them, including investment in infrastructure and capacity building initiatives for teachers. These challenges require timely intervention for a successful e-Learning process. Despite the widespread adoption of online distance learning as a promising avenue for educational accessibility in Kenyan Universities, there exists a significant research gap concerning the academic achievement of Kiswahili students.

Despite its recognition as a vital language within the Kenyan context, students' proficiency in spoken and written Kiswahili, as well as their performance in examinations, has consistently fallen below satisfactory levels across academic years. This concerning trend has been substantiated through an analysis of academic results from institutions such as Machakos, Murang'a, and the Catholic University of East Africa (CUEA) Universities. The consequential impact of this subpar performance extends to diminished employment opportunities for graduates, particularly in fields where mastery of the Kiswahili language is paramount. This research gap underscores the critical need for comprehensive investigations into the factors contributing to the unsatisfactory academic achievement of Kiswahili students in Kenyan Universities, particularly within the context of online distance learning.

Table: 1.1 Kiswahili Language Analyzed Results for Machakos University 2020-2022

Year	2020	2021	2022
Entry	176	221	100
Mean Mark	54.7 C	55.7C	58.4 C

Source: Machakos University

Table: 1.2 Kiswahili Language Analyzed Results for Murang'a University 2020-2022

Year	2020	2021	2022
Entry	100	120	150
Mean Mark	54.5 C	59.2 C	57.9 C

Source: Murang'a University

Table: 1.3 Kiswahili Language Analyzed Results for CUEA 2020-2022

Year	2020	2021	2022
Entry	160	120	180
Mean Mark	56.6 C	58.09 C	57.45 C

Source: CUEA

1.2 Statement of the Problem

Kiswahili, as one of the most spoken language bothlocally and regionally, is of paramount importance in Kenya. Being both the national language and one of the official languages, it permeates various aspects of society, including education. Its prominence is reflected in its inclusion as a core subject alongside other disciplines in both primary and secondary schools, as well as its status as a subject of study in Universities.

Despite the undeniable importance of Kiswahili, students' academic achievement in the language in Kenyan Universities has been consistently low. This inadequacy manifests in low levels of proficiency in both spoken and written Kiswahili, as well as poor performance in examinations at all academic levels. Such unsatisfactory achievements raise significant concerns, particularly regarding the employability of graduates in fields where language proficiency is crucial.

Indeed, the inability to demonstrate proficiency in Kiswahili significantly reduces graduates' prospects of obtaining employment in various fields that require command of the language. Furthermore, it undermines their ability to communicate effectively and engage in the socio-economic development of the country. The paucity of literature examining the relationship between e-Learning and academic achievement of Kiswahili students in Kenyan Universities underlined the urgency of this study.

This research sought to fill an existing gap in the literature by examining the potential correlation between e-Learning initiatives and the academic success of Kiswahili language students in selected Universities across Kenya. By examining this relationship, the study aimed to shed light on the effectiveness of e-Learning to enhance Kiswahili language learning and, consequently, improve students' academic performance.

1.3 Purpose of the Study

The purpose of this study was to examine the relationship between e-Learning and Kiswahili language students' academic achievement in selected Universities in Kenya.

1.4 Research Objectives

The objectives of this study are:

1. To determine the relationship between use of e-Resources and Kiswahili language students' academic achievement in selected Universities in Kenya.
2. To establish the relationship between adoption of e-Assessment and Kiswahili language students' academic achievement in selected Universities in Kenya.
3. To establish the relationship between utilization of Learning Management System (LMS) and Kiswahili language students' academic achievement in selected Universities in Kenya.
4. To determine the relationship between the provision of e-Learning support services and Kiswahili language students' academic achievement in selected Universities in Kenya.

1.5 Research Hypotheses

The following four hypotheses were tested in this study:

$H_0$1. There is no statistically significant relationship between use of e-Resources and Kiswahili Language students' academic achievement in selected Universities in Kenya.

$H_0$2. There is no statistically significant relationship between the adoption of e-Assessment and Kiswahili Language students' academic achievement in selected Universities in Kenya.

$H_0$3. There is no statistically significant relationship between utilization of Learning Management System and Kiswahili language students' academic achievement in selected Universities in Kenya.

$H_0$4. There is no statistically significant relationship between the provision of e-Learning learner support services and Kiswahili language students' academic achievement in selected Universities in Kenya.

1.6 Significance of the study

The findings of this study may help in evaluating the effectiveness of e-learning as an alternative learning for future adoption in order to evade effects of a related pandemic. The study may help the Ministry of Education and policy makers on making informed decisions on provision of infrastructure for facilitation of e-Learning programs. It may further help with information and knowledge on how to handle online learning in case of future learning interruptions. The findings may also help University lecturers with the necessary information on how to handle alternative teaching and learning process in future. The results of the study may in addition be used by educationists in other related contexts in their noble plan to prepare to combat effects of another pandemic in their areas of educational interests.

1.7 Limitations of the study

The absence of studies on the relationship of e-Learning and Kiswahili language academic achievement made it very difficult to get related literature. This limitation was mitigated against by using studies on e-Learning and students' academic achievement in general. Some of the respondents were not willing to respond to questionnaires and interview schedule and this was mitigated against by producing an introductory letter from Machakos University, an authorization letter from respective University and a research permit from the National Commission for Science, Technology and Innovation (NACOSTI) to ensure trust and confidence. Generalization of the findings may not be guaranteed given the size of sample population used. The findings of the study were limited to selected Universities in Kenya therefore can only be inferred to other Universities who possess similar characteristics. Availability of respondents was difficult due to their busy schedules. This was mitigated against by the drop and pick later method and booking appointment with the interviewees and administration of online questionnaires for the respondents who were off campus.

1.8 Delimitations of the study

The study had its main focus on the relationship between e-Learning and Kiswahili language students' academic achievement. The target population was all the Kiswahili language lecturers, all Kiswahili language students and Directors of ODeL Centers. The study was confined to selected Universities in Kenya. Questionnaires and interview schedule were the instruments of data collection.

1.9 Assumptions of the Study

It was assumed that there was a relationship between e-Learning and the quality of students' academic achievement in Kiswahili language, that the Universities to be

studied offer Kiswahili language teaching programs, that the Universities use LMS in their ODeL programs and that the respondents were willing to provide the required information for the study and they would give sincere, accurate and reliable responses. Further, it was assumed that the respondents were to be cooperative and readily available for the administration of questionnaires as well as interview schedule.

1.10 Operational Definition of Terms

Covid-19: This also known as Corona Virus disease 2019. This is a disease which is spread using touch and fluids and can only be prevented through wearing a mask, keeping social distance and regularly washing hands. It is a very deadly disease, the old and those with medical conditions are always vulnerable.

Distance Learning: Learning process which gives a learner the opportunity to learn, be evaluated, examined and graded at the comfort of his or her house and at their own pace.

e-Assessment: This refers to internet-based evaluation. It can be formative or summative. e-Assessment may be done online or downloaded to be done offline.

e-Learning: This refers to learning which is partial or entirely internet learning.

e-Resources: These are learning materials provided by the library through internet or a computer network. e-Resources are also available in Learning Management Systems (LMS) where the tutors upload the resources and the students are able to read. These may include e-Journals, e-Thesis, and videos among others

Learning Management System (LMS): This refers to a computer application through which the instructor creates as well as uploads course content for the students and also monitors the students through provision of e-Assessment.

e-Learning support services: These are services provided to the learner in order to manage e-Learning by overcoming any challenge and completing their course successfully. Learner support services include academic services, guidance and counseling, administration and access to learner community.

Pandemic: Outbreak of disease which affect a large area like a continent or the whole world. COVID-19 is an example of a pandemic. This is because after the first outbreak, it spread fast to almost all the countries across the globe.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter presents work which is related to this study. Areas covered include: concept of e-Learning, e-Learning in higher education, concept of Kiswahili language, students' academic achievement and the relationship between e-Learning and students' academic achievement in Kiswahili language.

2.1 Concept of e-Learning

Chaney (2010) explains that due to expansion of internet and technology accessibility, there has been an increased demand for both web-based teaching and learning process. He continues to argue that online learning is a rapidly expanding environment allowing users to operate outside of the constraints of time and place with flexibility. Online learning can be defined as a process which involves partial or entirely online learning (US Department of Education, 2010). The department continues to argue that online learning which includes; fully web-based, hybrid as well as blended.

Fully web-based include the courses conducted entirely on the internet without face-to-face interaction while hybrid are those courses consisting both web-based and classroom session varying on time allotment between online and in class sessions. This means that web-based teaching has expanded worldwide. Institute of Educational Sciences (2014) elaborated that e-Learning is a credit granting course as well as technology delivered education having the teacher in a different location and the learner in another location. You and Kang (2014) posit that online courses have been found to be conducive to students who favor self-regulated learning.

They further argue that the benefit of flexibility in online courses cannot be overstated due to its prevalence in reasons why students are attracted to online learning. Online learning allows for students to work at a time and a place that is compatible with their learning needs (Thompson, 2010). This suggest that e-Learning is flexible and easy to access. Zhang and Kenny (2010) commend that new technologies become less expensive and various forms of online learning are increasingly accessible. Online learning environment are becoming widely used for teaching and learning process.

Aviv (2001) says that the benefits of asynchronous communication have the potential to enhance cooperative learning by providing users extended time. Participants in an online learning environment can engage in course discussions by providing reflections after thinking about what has been said. Therefore, this suggest that e-Learning allows interactions among e-Learners. In a virtual learning community, learning can be negotiated among learners through a process of discussion and collaborative work on specific group projects.

In recent years, online education has experienced the strong influence of the constructivists learning theory and a paradigm shifts from teacher-controlled learning situation to learner centered instruction (Peters, 2002). Corona virus Pandemic has generated changes in teaching – learning process in higher education institution and other institution and has influenced the interaction between teachers and students. As consequences of the pandemic, many institutions are carrying out the activity with learners exclusively online (Sobaih, Hasanein & Abu, 2020). Therefore, Corona virus pandemic which led to learning interruptions made e-Learning programs implemented in many educational institutions.

Previous studies show that e-Learning has many benefits for students because this type of learning involves learner centeredness and it is more flexible (Dhawan, 2020). It can also improve interactions with learners by providing asynchronous and synchronous tools such as emails, forums, chats, and video-conferences (Mariononi, Van'tland & Jensen, 2020). Adnan and Anwar (2020) indicated that internet technologies facilitate the distribution of content at the same time to a larger number of users. e-Learning platforms also have elements that might be considered obstacles in students' process of learning such as decreased motivation in students, delayed feedback or help due to the fact that teachers are not always available at the time students may need help while learning. This suggest that e-Learning has its own benefits and challenges.

Feelings of isolation due to lack of physical presence of classmates (Yusuf & Albanawi, 2013), as obstacles to e-Learning can be overcome with the help of teachers who should adapt their teaching strategies to the need of learners. e-Learning is viewed as a system used for formal teaching or a network where information is set through electronic resources to a large audience. The main elements that ensure the functioning of such systems are the computer and the internet (Babu & Srideri,2018). Online learning is known to be faster; it saves time and money because it does not involve travelling (Cantuni, Celleris & Porta, 2004), and the upload of content is consistent and can be easily updated (Sadegh, 2019). This indicate that e-Resources are paramount in e-Learning.

Evans and Haase (2001) explain online learning as a form of distance learning or distance education which has been a part of many education systems and that it has become the largest sector of distance learning in recent years. Both the hybrid or blended learning and purely online learning are considered to be online as much of the

literature compares these two forms against the traditional face-to-face teaching-learning. Purely online courses are courses delivered entirely over the internet and hybrid or blended learning combines traditional face to face classes, learning over the internet and learn supported by other technologies (Osguthorpe & Graham, 2003). This suggest that both types of learning can be adopted.

Bartley and Golek (2004) explain online learning benefit as its effectiveness in educating learners, in professional development, its cost effectiveness to combat the rising cost of education and the possibility of providing a world class education to anyone with a broadband connection. Bernard et al. (2004) found that overall; there was no significant difference in achievement, attitude and retention between distance education which included online education and traditional face to face education. Online learning is one of the fastest growing trends in educational uses of technology in recent times (Parsad & Lewis, 2008). In Kenya it has been integrated in the education system especially in the Universities.

Online learning has become popular because of its potential for providing more flexible access to educational content and instruction at any time from any place. The motivation for online learning programs entails; increasing the availability of learning experiences for learners who cannot or choose to attend traditional face to face instructions, assembling and disseminating instructional content more cost efficient and providing access to qualified instructors to students in places where such instructors are not available (Rudestam & Schoenholtz-Read, 2010). Online learning is considered to have many benefits. Online learning overlaps with the broader category of distance teaching and learning which encompasses earlier technologies such as correspondence courses educational television and video conferencing (Bernard et al., 2004).

Members of online education community view the advent of online, web-based learning as significantly different from prior forms of distance education such as correspondence course and one-way video. Online learning has been described as a fifth-generation version of distance education designed to capitalize on the features of the internet and web (Taylor, 2001). e-Learning is considered a new solution to bridge the inequitable gap in education in many developing countries such as Pakistan, Nigeria and Thailand (Iqbal and Ahmed, 2010). Several approaches in e-Learning includes: Massive Online Open Courses (MOOCS), Virtual Reality (VR) and gamification which have been designed for students in leading educational centers to support their own cultures (Folorunso, Ogunesey& Sharma, 2006). Such approaches have made internet learning easy.

Many institutions lack the necessary e-Learning equipment such as highly efficient devices and internet connections. Learners also lack skills in computer literacy and self-motivation (Randy, 2011). LMS represents one of the most popular approaches for planning, delivering and managing learning in educational institution (Martinez & Jagannathan, 2012). The internet has become one of the vital ways to make available resources for research and learning for both teachers and students to share and acquire information (Richard & Haya, 2009). This suggest that lack of e-Learning infrastructure hinders its implementation.

Technology-based e-Learning encompasses the use of internet and other important technologies to produce materials for learning for teachers and learners according to Fry (2001). Algahtani (2011) divided e-Learning into two basic types: computer-based and internet-based. He explained that Computer-based e-Learning comprises of the use of a full range of hardware and software that are generally available for the use of ICT

while internet-based according to Almosa (2001) is a further improvement of the computer-based learning and it makes the content available on the internet such as email among others. Therefore, e-Learning involves the use of digital tools for teaching and learning. It makes use of technology tools to enable learners study anytime anywhere. It involves the training, delivery of knowledge and motivates learners to interact with each other. It eases communication and improves the relationships that sustain learning.

Bowen, Chingoz, Lack and Nygren (2014) stated that the hybrid type of online learning in many introductory courses helps in reducing instruction compensation cost more significantly in the long run. Chaney (2010) posits online learning classes have the potential to open new doors for many opportunities for learners. Communication is one of the critical elements to very effective online courses. Communication is a major key factor in virtual learning. Rovai, Weighting and Liu (2005) noted that quality of instruction which impacts learning outcomes can be affected by instructional methods embedded within the medium of delivery.

Picciano and Seaman (2009) elaborate that full online learning is the form of distance education in which all instruction and assessment are carried out using online or internet-based delivery. Graham, Allen and Ure (2005) have described blended learning also known as hybrid learning as that which allows learners to receive significant portion of instructions through face to face and online means. Matuga (2009) noted that two critical factors for determining success in online courses are self-regulation and motivation. This is the ability that helps in planning, monitoring and evaluating their own cognitive behavior as well as learning strategies. Online distance learning is a feasible strategy to provide access to education. Technology is an integral part of the teaching and learning approach (Wakahiu & Kang'ethe, 2014).

2.2 e-Learning in Universities

Mahyoob (2020) stated that most of the industries have been disrupted by COVID-19 and Education is cited to be the only industry which had to be completely transferred online across the world. Online learning has been seen as the only and the best solution for continuity of education during the crisis and especially in tertiary education or the institution of higher learning. Wolfinger (2016) explains that the need for continuity in education was actually possible due technological advancement. Hence, students could learn at any given time, and at any place they needed.

Louwrens and Hartizett (2015) stated that the guidance utilization for students to get motivated in the use of virtual learning mode greatly depends on the practical orientation on the emotional, cognitive and behavioral engagement. Lynch (2004) explains that MOOCs has greatly facilitated and more importantly tried to increase academic awareness of online learning in most of its involvements. Mahyoob (2020) indicated that the decision to close educational institutions which was across the globe was extremely critical in order to keep social distance, hence stopping the spread of COVID-19. He continues to state that some countries across the world stretched almost immediately to online learning since they had already advanced systems and were prepared for the same.

There was need for the rest of the countries to prepare well since an unguided plan would lead to failure and confusion. Some of strengths of the online learning in the Universities as observed by Mahyoob (2020) include global online education accessibility, timesaving, money and efforts' saving as well as lecturer's lesson recording. This recording certainly is known to improve teaching strategies and methods. This is because students are able to access their lectures any time and can

understand better. The challenges of online learning are less since both students and lecturers have had good opportunity in knowing and also interacting with education technology tools namely mobile based learning as well as web-based learning (Pellegrin, Uskov & Casalino, 2020).

Today's learners' interaction with different types of technology has enabled them to be more active recipients of e-Learning (Mohalik & Sahoo, 2020). It is therefore conclusively stated by Mahyoob (2020) that information Technology (IT) and COVID-19 has played a great role in hastening current and future e-Learning entrepreneurship activities which are considered a panacea at the time of a big crisis and extreme difficulties. He continues to state that the COVID-19 pandemic changed the whole education process to the online learning in most Universities in the world. Butnaru, Nita, Anichiti and Brinza, (2020) state that COVID-19 has caused disruption to the normal activities which include going to school, hence moving the education process online. They continue to explain that students have reacted differently to online learning based on the proficiency in the use of online tools, their ability in technically accessing online courses and finally the manner in which the instructor conducts the learning activities.

World Bank (2020) posits that the impact of the COVID-19 pandemic led to the temporal interruption of educational activities. The University students who were in their final years found themselves in unprecedented situation which did not allow them to have a clear perspective of future. The situation which affected both undergraduate and postgraduate students has generated unfavorable conditions such as the urge and necessity to drop out of education (UNICEF, 2020). Online education has been found to have the potential to transform the education system by allowing expansion of

education opportunities, changing student's population and also development of new pedagogical methods. These help in making the learning process more reliable, most efficient and extremely less stressful to both lecturers and students (Plat, Raile & Yu, 2014).

Arkorful and Abaidoo (2014) elaborate that one of the weaknesses of online learning is that it is perceived to lack interactivity compared to face-to-face learning or classroom learning. However, the strengths of online education include increased learning opportunities and flexibilities; accessibility to experts is easy, exposure to educational environments, variety of courses as well as joining students' communities. UNICEF (2020) states that at the beginning of the COVID-19 crisis, students were forced to reorganize their daily schedule to adapt to a situation of self-isolation, those who studied abroad had to return home, others were blocked since airports were closed as well as boarders. Lack of socialization was said to affect students as well as suffering from socio emotional balance. Students also claimed that most of the effects of isolation included anxiety and depression.

Coman, Tiru, Mesesan and Stancu (2020) stated that the COVID-19 pandemic generated great changes in teaching and learning process in higher educational institutions which has also greatly influenced the interaction between the instructors and students. As a result, therefore Universities were mandated to carry out their learning activity with students exclusively online. Many countries took strict measures in order to curb the soared virus spread and therefore to ensure the continuity of the educational process, Universities across the globe adopted online learning. Online learning is said to be learner-centered; it is more flexible and it is said to improve

interaction with students by provision of asynchronous and synchronous tools such as email, charts, videoconferences and forums (Dhawan, 2020).

The use of e-Learning platforms has led to some obstacles in students' learning process which has included decreased motivation among students, unavailability of instructors when students need help while learning, delayed feedback and a feeling of isolation following lack of physical presence of their classmates (Yusuf & Al-Banawi,2013). OECD (2020) indicates that some of the major challenges or obstacles faced by Universities included: firstly, keeping balance between online courses hence affecting health of students since they spend many hours in front of a screen; secondly, Universities also had to struggle to keep the course content, consistent and relevant, clear communication to the academic community, recruiting as well as acquiring students; and lastly, students encountered challenges such as internet connectivity, inappropriate devices, accessibility, social issues due to lack of communication and interaction with instructors and peers(Aboagye, Yawson & Appiah, 2020).

Sun, Tai and Finger (2008) in a study on student's experience during online courses concluded that students have to believe that instructors should be able to know how to adapt their lectures to the online environment. Hence, they should not transfer the information used in traditional teaching to online platform. They also insist that teachers should be able to provide adequate assignment as well as projects. Sun et al. (2008) continue to say that though some of the Universities had used e-Learning as additional method of teaching before the corona virus crisis, most of them are said not to have been fully prepared for a full online experience.

Optimization of the online education therefore required Universities to take into consideration student-teacher interaction, language used in communication between

instructors and students and specific terms of the study (Goian, 2004). Findings of the Coman et al. (2020) study included: one, a longer period of adaptation of students and teachers in online environments improves the quality of educational process; positive perception of students on online learning; and finally, that students 'problems remain due to poor internet connectivity, loss of signals, inadequate digital devices especially students from disadvantaged families. Oye, Salleh & Lahad (2010) state that e-Learning involves the use and real application of information and communication technology (ICT) at websites, personal computers (PCs), tablet (PC), cell phones, LMS, Television (TVs), radio and other means to improving teaching and learning process. Heeger (2010) posits that e-Learning enables numerous higher education students to take similar programs concurrently.

Holley (2012) indicates that e-Learning systems permit instruction method which is geared to improve top quality related to instruction and higher education students' academic achievement. This suggests that these softwares and hardwares are key to e-Learning process. Traditional face to face education was severely disrupted by the global pandemic and policy makers had to make a quick response and turned education from face to face to online learning using different digital platforms (Hsieh, 2020). Most Universities were forced to apply free interactive platforms such as Zoom and Google classrooms, or Social Network applications (SNAs) including WhatsApp, Facebook, Twitter or Microsoft Teams for e-Learning (Sobaih, et al., 2021). While some studies reported positive influence on students' academic achievement, other confirmed negative influence (Chandrasiri et al., 2021). This indicates that interactive forums have greatly facilitated e-Learning.

Recent research studies by Alamri et al. (2020) examined the relationship between SNAs usage and students' academic achievement amid COVID-19. The major finding confirmed that SNAs can greatly assist and enhance students' academic achievement. The study found that students' usage of SNAs positively affects academic achievement. This suggests that the integration of e-Learning in higher education in post COVID-19 has been very crucial, since it was found that it created positive learning experience and enhanced students' academic performance amid COVID-19 pandemic.

2.3 Concept of Kiswahili Language

Kiswahili is a language better known by other name Swahili. It is a native language of the Swahili people who are found in Tanzania, Kenya and Mozambique. It is categorized as a Bantu language. Language has developed historically by borrowing its many words from foreign languages and specifically from Arabic language (Mugane, 2022). Kiswahili is a major language in Africa, and it is one of the official languages of the East Africa Community in addition to English and French (BBC News, 2022).

Kiswahili is now a lingua franca in the many other areas in the African Great Lakes region East and Southern African which includes DRC, Malawi and Mozambique. In Uganda, Kiswahili was adopted as the official language in 2022 and it was made compulsory in primary and secondary schools in the country (Monitor, 2022). In Tanzania, use of Kiswahili as a national language is widespread and is used to unify the country. It is an official language as well as national language in the country.

Different Research Institutes have so far been developed to research, develop and promote Kiswahili language. BAKITA (Baraza la Kiswahili la Taifa) and Taasisi ya Uchunguzi wa Kiswahili (TUKI). These bodies manage co-ordinate research, development and use of Kiswahili in Tanzania. They also promote Kiswahili in East

Africa and entire world. BAKITA is the only organization which approves new Kiswahili language vocabulary (BAKITA, 2020). Kiswahili language is also used as a medium of instructions in Tanzania.

In Somalia, Kiswahili language is not wide spread and only a dialect is used in few areas of country hence no official status. It is rarely taught in education system. Standard Kiswahili is only spoken by the Somalis who reside in Kenya. In Kenya, Kiswahili has been in the national language since 1964 and is an official language since 2010. There are organizations such as CHAKITA (Chama cha Kiswahili cha Taifa) which coordinate development, promotion and usage of Kiswahili in the country. Kiswahili language is a compulsory subject in all Kenyan educational institutions Primary, secondary, colleges and Universities (CHAKITA, 2022). This suggest that Kiswahili is an important language in Kenyan and in Africa at large.

2.4 Student Academic Achievement

Engel (2002) elaborates academic achievement as the excellence in all academic disciplines in class as well as extracurricular activities. The researcher further elaborates academic achievement as the outcome of education as it indicates the extent to which the student, teacher, curricular and indeed the educational institution has achieved the preferred education goals. Cheng (2013) asserted that the availability and adequacy of teaching and learning resources were much related to and promote organization effectiveness in terms of academic achievement. Members of staff in a school with teaching and learning resources therefore expressed the view that their school was highly effective in terms of its productivity, its adaptability as well as its flexibility.

Desarrollo (2008) stated that academic achievement is dependent upon various factors which include the institutional leadership, teacher motivation, student attitude and availability of resources. Academic achievement of students is the ability of the students to study and remember factors and being able to communicate their knowledge orally or in a written examination. Secondary education plays a crucial role in laying the foundation for the further education of students (Kpolovie, Joe & Okoto, 2014). This indicate that factors that influence students' academic achievement at the senior secondary school are not conclusively known, but could include students' attitude towards school, interest in learning, study habits, attribution, self-efficacy, intelligence and motivation.

Udoh (2005) maintained that academic performance of students is phenomenon with educational, psychological and sociological connotation. Pearson foundation (2014) states that students' attitude to school can be seen as a disposition towards learning, working with others and functioning in a social setting. Kpolovie (2010) explains that interest in learning could most probably be a very powerful affective psychological trait towards student's academic achievement. This suggest academic achievement as the aggregate of each student's demonstration of learning, knowledge, skills, ability and indeed cognitive, affective and psychomotor domains in all subjects.

According to Engel (2002), achievement is measured with examination that assesses important procedural knowledge such as facts which students have learnt. Kpolovie (2010) stated that academic achievement is used interchangeably with academic performance and is indispensable in every formal education institution. Kpolovie (2010) continues to explain that academic achievement is a measurable index that depicts students' cognitive, affective and psychomotor domains in an educational

setting. Evaluation of education achievement is indispensable for effective formal and even non-formal education. Kaplan and Saccuzzo (2005) posited that academic achievement which is usually measured with tests refers to what is actually done under existing circumstances that subsumes the process of accessing and utilizing the structure of knowledge and abilities and host affective, motivational and stylistic factors that influence the ultimate responses.

Joe, Kpolovie, Osonwa and Idelima (2014) elaborate that academic achievement refers to the observed and measured aspect of a students' mastery of skills developed in school subjects' contents as measured with valid and reliable tests. This indicate that academic achievement can be measured in terms of grades. Joe, Kpolovie, Osonwa and Idelima (2014) further suggest that academic performance is different from the academic potentials of an individual. It is the measured relatively permanent changes in an individual's behaviors due to the experiences acquired. Kpolovie (2010) indicated that a student's academic performance is usually measured by teacher-made tests or standardized tests.

Ashton (2001) explains that academic attainment as measured by the examination of the traditional kind involves most of capacity to expresses oneself in a written form. Kpolovie and Obilor (2013) explain that academic achievement of a student may also be dependent to an extent on many environmental factors which include education functioning, student, home environment, school administration, teacher, culture and educational policy. MOE (2020) states that the education system has been adversely affected by COVID-19 which may consequently affect academic achievement of learners of all levels. This indicates that performance is affected once there are interruptions.

Lee et al. (2011) that perceived support in online courses significantly impacts student satisfaction and learning outcomes. Al-Fraihat et al. (2020) that e-Learning success is influenced by technical system quality, information quality, service quality, support system quality, learner quality, instructor quality, and perceived usefulness. Zolochevskaya et al. (2021) that e-Learning, leveraging ICT, significantly improves academic success for students in higher learning.

2.4.1 The Relationship between the Use of e- Resources and Students' academic Achievement in Universities

According to AACR (2018), an electronic resource means any material; data and or program, which is encoded for manipulation by a computerized device. Electronic resources are materials available in a digital form and can be accessed electronically. They include e-Journals, e-Books, online catalogues, internet services and email references services offered by academic libraries IFLA (2012) elaborates e-Resources as materials which require computer access whether mainframe computer, personal computer or handheld mobile device. These can be accessed either remotely or locally. Dayakar (2018) says that e-Resources play a very prominent role in supporting higher education and meeting educational objectives. Therefore, e-Resources have become very inseparable part of the educational system.

Goian (2004) states that instructional content can be gotten by instructor through e-Resources hence providing opportunities for teaching strategies. Types of e-Resources include; e-Books which are electronic version of a book covering full contents. Users or students are able to view a full text of the e-Book in HTML or PDF format in the internet. One can use personal computer, desktop or smartphones. e-Journal is a periodical publication which is also published in electronic format on the internet and

it is very useful in higher education (Correia & Neto, 2004). Such e-Resources facilitate e-Learning.

Afolabi (2007) elaborates that online databases are a collection of electronic information sources such as e-Journals, e-Books among others by different publishers from various fields and discipline. e-Thesis are theses in digital forms and they can be accessed through the internet. e-Mails refer to electronic messages from a sender to recipient. Darkwa and Mazibuko (2000) state that CD-ROM databases allow users access to relevant databases without internet connectivity in libraries. They are important in identifying bibliography and accessibility to large volumes of literature for research.

File Transfer Protocol (FTP) is a standard internet protocol for transmitting files. Other e-Resources include, Remote login, World Wide Web among others. Okello and Magara (2008) posit that e-Resources are very beneficial to both instructor and students and this includes; accessibility of information through e-Library, they help curbing plagiarism, eases financial constraints, checks on reliability and quantity of information, help in data and file storage through cloud computing, help in easy submission of assignment through e-Mail and finally they help reduce overload of information.

Academic libraries are seen to be critical and essential contributors to knowledge generation and serve a very wide spectrum of knowledge seekers (Wong & Webb, 2011). Academic libraries are referred to as the ‘heart’ of the University since they provide a place for students and faculty during their research and in advance of their knowledge. The main objective of any University library is to maximize use of its resources intensively as well as services. Banleman and Adjoa (2017) noted that

students of borrowing books, spending time in the library and accessing online resources indeed correlates significantly with their academic achievement. Borrowing of books has a positive relationship to their grades point average. Banleman and Adjoa (2017) concluded statistically significant differences in cumulative GPA between students who used at least one library service compared to students who did not use any library service. Therefore, the more library books, e-Resources and audio-visual material student use the high their GPA.

Akussah et al. (2015) noted that accessing online data bases, accessing electronic journals and check out books associated with performance of students studying at the library and use of online data bases. In this case then exist many indicators and parameters to measure the effectiveness of library usage to students' learning academic achievement. These include borrowing of books, attending library workshops and the use of automated library system. Therefore, their study indicated a positive impact of library usage on students' academic achievement. Banleman and Adjoa (2017) noted that students' use of the library is statistically significant to student Grade Point Average (GPA); access to electronic resources was the most beneficial resources students should have in order to attain excellent academic performance.

Ani (2008) states that the transition from print to electronic medium apart from resulting in a growth of electronic information has provided users with new tools and applications for information seeking and retrieval. Therefore, electronic resources are invaluable research tools that complement the print-based resources in a traditional setting. Dadzie (2007) cites that some of the advantages of electronic resources are to access to information that might be restricted to the user due to geographical location or finances, access to more current information and provision of extensive links to additional

resources related contend. The resources offer possible ways to mitigate costs and revolutionize ways to access information.

Chisenga (2004) found that although most libraries had internet connectivity, very few were offering web-based information services to the users. The study however, identifies four barriers to the effective provision of electronic resources in those libraries namely; lack of strategic planning, lack of adequate or reliable funding and lack of internet connectivity to provide information services to users and lack of consistent training for users in new ICT services. Akussah, et al. (2015) concluded that electronic resources had a significant positive relationship with the usage among the users in academic achievement. Aniedu and Uzuegbu (2014) elaborate that establishment of electronic resource centers is of great help to education in accessing new research development as soon as they are made available to improve teaching learning to prepare learners to face contemporary challenges that would enable them to obtain solutions to global problems.

Okite-Amughoro et al. (2015) indicate that academic libraries have reached an era of replacing printed research materials with electronic materials that are widely accessible through World Wide Web Technology (www). In most educational institutions, e-Resources have become powerful teaching and learning tool for lecturers and students as the internet becomes a gateway to global information accessible allowing users to access huge amount content. Dolo-Ndlwana (2013) posits students' and faculty staff usage and value of electronic resources and its usage was very common among the students; this assisted much in academic purposes especially academic achievement. Okello-Obura and Magara (2008) revealed that students derive a lot of benefits from

electronic resources by gaining access to a wider range of information and improved academic achievement as a result of accessing quality information.

Merende et al. (2021) explains that electronic resources have presented many benefits alongside challenges to information consumers. Despite most academic libraries spending a huge sum of meaning subscribing to various e-Resources it has been noted that some of these resources are underutilized due to very low level of awareness and lack access and skills. Littlejohn (2003) who suggests that Universities can contribute to equitable access to e-Learning resources by developing, sharing, and reusing digital learning resources, addressing educational design, standards, and culture and organization issues. Xian-wen (2006) who found that e-Learning, supported by digital campuses, offers a superior teaching environment for Universities, improving teaching source, management, and communication between teachers and students.

Willems and Bossu (2012) who found that equity considerations are fundamental in the design of open educational resources (OER), as challenges in accessing digital materials for learning persist for some. Rakic et al. (2020) who posited that Digital educational resources from e-Learning platforms significantly improve student performance in various courses. Mothibi (2015) who found that e-Learning and ICT have a significant positive impact on students' academic achievement in higher education. Ikinya and Okoth (2013) found effective cost management and distance learning methodologies can improve the performance of students in distance learning programs.

Rakic (2019) posited that digital resources at the e-Learning platform have strong effects on student success, and students with similar grades tend to cluster together. Mani et al. (2019) asserted that the frequent use of electronic resources in Universities

is common, ranging from daily to 2-3 times a week, and is positively associated with academic performance. Bhukuvhani (2012) found that increased use of electronic resources by lecturers positively affects their work, pedagogical practices, and research productivity. Rakic et al. (2020) stated that optimizing access to e-Resources can enhance student outcomes by significantly relating their performance to the use of digital educational resources from the e-Learning platform.

Dinev and Dineva (2020) posited that e-Learning benefits students by providing a variety of online resources, increasing engagement and conscious perception of the learning material. Borchardt and Weidauer (2013) indicated that lecturers at Universities experience benefits such as reduced workload, improved teaching effectiveness, and increased productivity when using an e-Learning system for their teaching work. Anyim (2021) found that electronic resources provide students with up-to-date information, complete information from different sources, speedy and easy access to information, and more for effective distance learning and continuing education. Hadagali et al. (2012) asserted that lack of personal computers and internet bandwidth are the main problems faced by users in accessing e-Resources in Universities. Manda (2005) argued that challenges of using electronic resources in Universities include slow Internet connectivity, limited access to PCs, poor search skills, and power cuts.

Mutisya et al. (2016) posited that insufficient Internet connectivity, heavy workloads, limited ICT skills, lack of incentives, and inadequate computer laboratories are challenges affecting the adoption of e-Learning in public Universities in Kenya. Khawari et al. (2018) suggested that Malaysian Universities should provide fast internet access, increase computer availability, and provide compulsory and long-term e-

Resources training programs to increase usage among international students. Xu et al. (2019) posited that internet connection frequency features are positively correlated with academic performance, while traffic volume features are negatively associated. Means et al. (2009) found that use of e-Resources can have a positive impact on academic outcomes. Velnampy (2013) asserted that e-Resources enhance earner's academic achievement. William et al. (2012) found that e-Resources does not affect learner's academic achievement.

2.4.2 The Relationship between Adoption of e-Assessment on e-Learning and Students' academic Achievement in Universities

Appiah and Tonder (2018) posit that assessment is a very critical component of teaching and learning process in any institution of higher learning. They further argue that assessment is often viewed as a component in every higher education institution. Crisp (2011) elaborates that e-Assessment usually involve the use of technological device to create, deliver, store and /or report students' assessment marks and feedback. Devices used include smartphones, desktop computers, iPad, Androids and Laptop computers. Different media formats are used in e-Assessment such as word documents, Portable Document Format (PDF), videos, among others. This suggest that with advent of the new technological devices, students' abilities and skills can be tested through e-Assessment.

There are two ways in which e-Assessment can be delivered. The first one is web-based delivery, where students access their assessment (online assessment) and the second one is down delivery where the e-Assessments are downloaded and done offline (offline assessment) (Algahtani, 2011). Winkley (2010) posit that the institution decides to use e-Assessment facilities that are already built in a learning management system such as

Moodle or Blackboard. This indicate that e-Assessment tasks have the potential to require students implement a deep approach in performing tasks.

Biggs and Tang (2011) state that a lecturer might decide to create an easy assessment that requires less time or effort to grade. It is therefore, believed that e-Assessment has the capability to encourage deep learning and assisting higher order thinking. The lecturer should therefore provide tasks that enhance student learning and maintain high expectations. They include: ability of many students to be assessed within a given time, immediate feedback for the student and lecturer, ability to repeat and randomize tests, they are time saving and finally students are given opportunities for their own learning (Morris, 2008). This suggest that e-Assessments have benefits whether used for summative or formative purposes.

Howarth (2015) states that developing e-Assessment tasks is less costly. Security is the main challenge of e-Assessment (Brink & Lautenback, 2011). This challenge therefore, makes it difficult for institution to develop high stake e-Examinations. Security measures are paramount in order to maintain standards of e-Assessment. Such security measures include use of individual passwords, restriction to certain computers, and use of smartcards, keystroke, biometric finger prints, facial recognition and live remote monitoring. These may help in accessing e-Assessment and continues being secure at the same time.

In conclusion, Appiah and Tonder (2018) stated that e-Assessment has a great potential to support and even improve student learning. Credible e-Assessment will enhance students' learning since it encourages them to be sincere about their own learning approach. e-Assessment is said to be more suitable now than traditional assessment since it minimizes stress among students, helps in improving decision making among

administrators and reduction of cost and time. Since it is an innovation, it enhances teaching and learning in institutions of higher learning.

Al-Hussein (2013) explains the advantages of electronic test over traditional paper tests using new types of questions that measure skills. It also provides instant and accuracy in marking of the test measurement of the performance of students and instant feedback. It is inexpensive, offers flexibility in conducting multiple tests and easy for the teacher to prepare and implement through bulk of questions. Alz'ubi (2015) posits that electronic exams are statistically significant on the academic achievement. Basaarani, Yalman, and Gonen (2016) have shown the importance of electronic assessment or tests in terms of faculty members that it can acquire rapid results and make education better.

Harris and Al-Bataineh (2015) studied the impact of electronic assessments and found that the tool can be of significant interest for students and teachers in improving academic achievement among institutions. Electronic tests might be the catalysts in assisting students for achieving at higher levels with more technology explosive for students and professional development. You (2015) indicated that the course achievement of students was negatively associated with the late submission and absence of assessments. The study also revealed that a predictable increase of course achievement based on the electronic assessment scoring system.

Jalila (2017) noted the impact of different design variables on the electronic tests on the motivation for academic achievement with the provision of motivation and immediate feedback. Asad et al. (2021) elaborates that electronic assessment is the modern technology that includes all forms of assessments including collaborative approach-based assessment, interactive assessment, portfolios and group projects. Assessment plays a very critical role in the overall learning process of a student. It helps make the

entire teaching and learning process effective and helps in planning, assessing, analyzing and evaluating teaching and learning outcomes.

Asad et al. (2021) noted that new trends of assessment in-terms of electronic assessment (EA) also known as Digital Assessment (DA), Online Assessment (OA) and Computer based Assessment (CBA) emerged as alternative forms of assessment back in the 1990s. Collaborative assessment is a form of e-Assessment the teacher requires collaboration with students to achieve students learning outcomes. Guo et al. (2017) who found that a comprehensive model of student participatory assessment based on process and growth can effectively assess students' ability and quality of acquiring and applying knowledge, improving their professional study.

Pesareet al. (2015) argued that digitally enhanced assessment in virtual learning environments can improve teaching and learning by providing easy-to-understand views of learning data. Crisp (2002) reviewed various assessment methods in social work education, examining their effectiveness and potential issues. Mimirinis (2018) found that academic teachers understand e-Assessment as a means of efficiently managing and streamlining the assessment process, facilitating dialogue and student engagement, enhancing student learning, and developing digital identity and community. Brink and Lautenbach (2011) stated that The University of Johannesburg implemented electronic assessment in some departments in 2004, but faced challenges in using one e-Assessment tool within the University.

Mimirinis (2018) found that academic teachers perceive e-Assessment as efficient management of the assessment process, facilitating dialogue and student engagement, enhancing student learning, and developing digital identity and community. Hettiarachch (2015) asserted that the e-Assessment tool with a formative assessment

model positively impacts student performance and learning by providing personalized feedback, guidance, and marking, while automatically tracking progress and competences. Khlifi and El-Sabagh (2017) argued that the main challenge facing the security of e-Assessment and the e-Learning environment is how to authenticate students, as unauthorized persons can access and manage information. Gathuri et al. (2014) posited that impersonation challenges in online examinations are a major concern, and a Profile-Based Authentication Framework (PBAF) can help make e-Assessment more secure in terms of the authentication process.

Nehme (2010) found that e-Learning can improve learning if lecturers consider students' motivation and use elements like fee policy and training of lecturers to foster motivation. Guàrdia (2020) stated that training students and lecturers frequently on the use of e-Assessment can enhance student learning in Higher Education. Kiryakova (2021) posited that e-Assessment in Learning Management Systems like Moodle offers new, innovative approaches for evaluating various aspects and levels of knowledge, skills, and competencies, enhancing the learning process. Osabutey et al. (2022) and Al- Hattami (2020) found that e-Assessments improve academic achievement.

Brink and Lautenbach (2011) reported that e-Assessment in higher education did not statistically affect academic performance at the University of Johannesburg. Guàrdia et al. (2020) found that e-Assessment in Universities has not yet been fully explored and its potential to improve student learning is not yet clear. El-Koumy (2001) argued that student self-assessment slightly improved English as a Foreign Language (EFL) students' achievement and academic thinking, but there is insufficient evidence to conclude that it significantly improves their knowledge or academic thinking.

2.4.3 The Relationship between Utilization of Learning Management System and Students' academic Achievement in Universities

Paulsen (2002) defines Learning Management Systems as a system which provides online education services for students, teachers and managers. The researcher further argues it is a system which organizes and provides access to online learning services for teachers, students and administrators. Mahnegar (2012) elaborates LMS as software which creates edits and controls e-Learning content. Alghand and Bayanga (2016) describe LMS as an online portal providing space for classroom resources, tools and activities which can be shared easily around students and instructors. This suggest that LMS are utilized for teaching and learning practices, assist in tracking students' activities in manageable manner, and allows collaboration and students' involvement as well as interaction.

Aldiab, Kootsookos, Chowdhury and Allam (2019) stated that there is an increasing strong trend toward utilizing LMS in most Universities as a part of their educational management system in order to improve the teaching and learning process. Most of the Universities use LMS beside their traditional classrooms. In this platform a student is an able to review lectures, answer exams, submit assignment, receive feedback and discuss the same with peers. Mahnegar (2012) posit that LMS provides very many benefits for educational processes; they are effective to students belonging to the same University but different campuses. Holmes and Prieto-Rodriquez (2018) say that LMS gathers all the students in one virtual place enhancing their interaction, feedback and discussions.

Alam, Hadgraft and Alam (2014) posit that using LMS in e-Learning is beneficial for all students especially those with difficulties such as living in far off places or those

with health problems they can continue with education regardless of location and time. Al-sharhan, Al-Hunaiyyan, Alhajiri and Al-Huwail (2020) stated that a very large number of universities today are equipped with LMS which help them in providing space for rich online learning environment and to utilize its tools and functionalities in order to improve pedagogies and increase their quality of learning.

Bacow, Bowen, Guthrie, Lack and Long (2012) explained that LMS provides a variety of functions and communication tools that support teaching and learning such as assignments, announcements, quizzes, discussion forum, resources, chat among us. These tools used either synchronous or asynchronous not only enrich the teaching and learning process but also facilitate communication as well as collaboration among learners and instructors. Azmi, Zeehan, Fahad and Hisham (2012) stated that LMS is an essential tool for University students because it helps them to keep up with the course work, get instant notification regarding exams, quizzes and daily assignments. LMS is also known to register users, track courses and records data from learners. It also provides reports to the institutional managers.

During the COVID-19 pandemic LMS has become the primary channel for lecturing and learning in high education contexts. A LMS has been defined as a self-contained webpage with embedded instructional tools that permit faculty to organize academic content and engage students in their learning (Kim et al., 2021). A LMS enhances educational processes because it can support interactive communication between instructors and students with no restrictions in terms of time and space. Gautreau (2011) posited that to improve the effectiveness of facilitating and learning environment almost every University around the world has adopted a LMS as part of their teaching and learning tools.

Dahlstron et al. (2014) posited that education professionals widely admit that online University classes pose a number of challenges with respect to network infrastructure and that insufficient time was had to make a quick switch which resulted to unprepared online classrooms. Jaschik (2014) noted that LMS has also been used for relatively limited purposes such as for passing on announcement to students, posting courses syllabi and creating discussion board. Alturki and Aldraiweesh (2021) showed that the desire of students to use LMS had beneficial effects during the COVID-19 pandemic on learning as sustainability engagement.

LMS is a media integration for instructions which utilizes a single platform to co-ordinate communication processes during instructional events. Use of LMS in the learning process further helps in encouraging e-Learning. Alnomay et al. (2012) found that blended Learning Management Systems enhance the administration, documentation, tracking, and reporting of training programs, e-Learning programs, and training content, resulting in improved learning outcomes. Bradley (2020) argued that LMS use in online instruction allows instructors to facilitate discussions, plan activities, set learning expectations, and assist in problem-solving, creating an engaging learning environment.

Simanullang and Rajagukguk (2020) posited that Moodle is a popular LMS application suitable for online learning, supporting various student activities like videos, discussion forums, chat, materials, and quizzes. Oliveira et al. (2015) noted that Universities had trained staff to operate LMS for e-Learning management. Kasim and Khalid (2016) that LMS are used for registering students in e-Learning and improving their learning experience. Adzharuddin (2013) found that LMS is used by lecturers to prepare and upload content, modules, and learning materials, connecting students and lecturers

without traditional classroom confines. Adzharuddin (2013) stated that LMS helps connect students and lecturers without traditional classroom confines, managing user learning interventions and delivering learning content and resources to students. Cantabella et al. (2019) found that students use learning management systems (LMSs) to access, download learning materials, and upload assignments or CATs.

Lee and Kim (2015) argued that LMS effectively increases learners' interactions in e-Learning by enhancing target consciousness, communication, and resource sharing. Kasim and Khalid (2016) stated that LMSs improve students' learning experience and construct their understanding of certain topics, considering factors like flexibility, ease of use, accessibility, and user-friendliness benefits. Rahrouh et al. (2018) posited that instructors in higher education find LMS-Moodle effective, reliable, usable, maintainable, and efficient for delivering online courses. Kasim and Khalid (2016) found that LMS for Universities, highlighting their flexibility, ease of use, accessibility, and user-friendliness, to help users make informed decisions for their institutions needs their findings.

Susanto and Susanto (2023) highlighted challenges faced by students in using LMS in hybrid classes include lack of enthusiasm, intermittent connectivity issues, tight deadlines, and difficulties in comprehending instructional content. Gani and Berg (2019) confirmed that lecturers reported challenges in using LMSs for teaching and learning, including poor internet access, lack of skills, fear, and workload. Oliveira et al. (2015) stated that Internet connection is a challenge in the use of LMS in e-Learning, highlighting gaps and guidelines for future research. Coates (2005) posited that LMSs have the potential to enhance student engagement and enhance campus-based education

by enhancing collaboration, communication, and access to learning materials. Such challenges if mitigated utilization of LMS become easy.

Chow et al. (2018) argued that Lecturers who attended LMS training workshops had higher LMS activity levels and used more 'grade center' and 'assessment tool' tools in their teaching compared to untrained teachers. Cabral et al. (2012) found that Faculty training is crucial in the adoption of learning management systems in Universities, as faculties who attend three or more workshops develop higher technical and pedagogical proficiency in LMS. Oguguo et al. (2021) stated that Learning Management system affect learner's academic achievement.

Ahmed et al. (2019) found that use of LMS has a positive impact on students' academic achievement. Mohammed (2021) stated that use of LMS has a significant relationship with academic achievement. Firman et al. (2021) posited that LMS in e-Learning, such as Moodle, builds an interactive learning process between teachers and students, improving academic achievement. Therefore, these tools are paramount in e-Learning.

2.4.4 The Relationship between Provision of e-Learning Support Services and Students' Academic Achievement in Universities

According to Hardman and Dunlap (2003), a learner support services program is a critical component for effective retention for online learners. Learner support services can effectively solve problems of isolation, lack of self-direction and manage e-Learners. Moore (2003) elaborates that learner support services as a support system aimed at enhancing and improving learning. This indicate that these services are critical in e-Learning.

Moore (2003) outlined learner support services as including Academic Support Services where the institution recognizes the basic need of the learner, in this case

course content delivery, tutorial services, academic advising (Mosha, 2006). Teaching and learning play a central role in improving quality education. Effective instructional arrangement is highly influenced by availability of adequate teaching and learning materials which can be made available in the LMS. Mollel and Mwantimwa (2019) posited that provision of e-Library service is also among very important services for students in order to achieve the academic achievement. This service supports the students with easy access to learning materials.

Tutorial services are vital for e-Learners especially face to face by helping them share challenges and experience (Mahai, 2005). They help the e-Learners feel at home, feel valued and find the courses manageable (Tait, 2000). This suggests that e-Learning support services have a major impact on performance. Slimp (2014) explained that colleges must provide high quality and equitable learner support services to their online students including retention services e.g. orientation, advising, coaching, course registration.

Student engagement such as students' activities, student government and learning support such as library services, tutoring, career services and technology support. Doyle (2020) posited that remote instruction highlighted the preparedness and flexibility of learner support services such as advising, tutoring, mental health support and overall infrastructure and readiness of an instruction to work with students in a completely virtual environment. Ludeman and Schreiber (2020) further explained that these services are designed to enable and empower students to focus more intensely on their studies and personal growth both cognitively and emotionally. They also should hence result in enhanced student learning outcomes and consequently, higher retention and throughput rates.

Smith (2005) argued that Universities should provide an online student service that accomplishes three key objectives; identification of the needs of its online and face to face learners, availing services when the learner wants them, rather than when the institution is ready to provide them, ensure that the virtual services are as good as or better than the person equivalents. Pelletier (2020) noted that student support service does foster a sense of belonging for the students. The researcher confirms that institutions are not providing equitable learner support services to online students with the most significant gaps identified in student advising and counselling.

Tavangarian et al. (2004) argued that current e-Learning systems lack individualization and interaction, requiring flexible multidimensional data models and individual content generation for effective learning support. Abdous (2019) posited that online learning orientations should address factors influencing anxiety in online students, boosting their confidence, motivation, and preparedness for success in online courses. Phipps and Kelly (2006) found that a holistic framework for e-Learning accessibility considers learner needs, learning outcomes, local factors, infrastructure, usability, and quality assurance, in addition to accessibility. Lim (2004) argued that learner engagement is paramount to learning success. There is importance of learner engagement in online learning environments, highlighting the need for mindfulness, cognitive effort, and attention in order to enhance the learning experience.

Lee et al. (2011) found that support in online courses significantly impacts student satisfaction and learning outcomes. Goulão (2019) pointed out that e-student support, such as forums for collaborative work, positively impacts their learning experience and helps them recognize their role in addressing content challenges. Chigbu (2023) posited that e-counselling significantly improves career development among undergraduate

students at Enugu State University of Science and Technology, Nigeria therefore important to students. Wambua et al. (2019 argued that e-Learning learner support services greatly impact learners' academic achievement.

Wang and Cheng (2009) noted that e-Learning support services, especially personalized learning support can maintain learners' motivation and facilitate learning. Al-Fraihat et al. (2020) argued that e-Learning support system quality positively affects student performance in University contexts. Baloyi (2014) stated that e-Learning learner support greatly impact learners' academic achievement. Conclusively, these services are key to e-Learning.

2.5 Theoretical framework

The study adopted the Moore's theory of transactional distance learning and Self-Determination theory.

2.5.1 Moore's Theory of Transactional Distance learning

According to Moore (1993), this theory believes that the quality and intensity of any interaction between the learner and learning environment influences academic achievement within distance learning environment. The higher the quality of interaction the more likely the learner will perform better. This interaction is said to measure the transactional distance which means the perceived pedagogical psychological and communicative distance between the learner and the learning environment. Transaction distance measures the connectedness between the learner and the learning environment.

There are three factors used to measure this distance. First are learners 'perceived openness of dialogue. The second factor is students' sense of autonomy and finally is the learners' perception of the learning structure. The shorter the distance between the learner and environment the high the connectedness: the longer the distance between

the learner and environment the low the connectedness. Within the online environment, the connectedness of the learner occurs when the learner is able to ask questions and receive timely responses and thus, the higher the level of connectedness the higher the retention.

Connectedness influences learner's satisfaction and the associated motivation to learn, both of which are factors in learner motivation and performance (Deci & Ryan, 2008). This theory has a direct bearing on e-Learning. It explains and qualifies the relationship between instructor and student in the e-Learning situation where there is substantial, physical or temporal distance between the two.

Moore (1993) further proposed that there exists distance in all educational relationships, such as the teaching-learning relationship which may include physical distance. But there is also distance of understanding and perceptions. Hence, there exists a transactional distance. The learners, teachers or training professionals and educational organizations have to develop procedures to overcome their separation such as the use of technology, have knowledge and skills to utilize technological gadgets, be able to provide the relevant support to the learner at a distance and develop instructional material that suits the distance learner. This is a theory of motivation. This is the main strength. Its weakness is that its philosophy is biased.

In the context of e-Learning and Kiswahili language education, Moore's theory emphasizes the importance of designing online courses that provide clear structure, facilitate meaningful dialogue, and empower students to take responsibility for their learning. For example, e-Learning platforms should offer well-organized learning materials, clearly defined learning objectives, and opportunities for interactive communication between students and teachers. By minimizing transactional distance,

e-Learning environments can foster a sense of connectedness and engagement, thereby improving the academic performance of Kiswahili learners.

2.5.2 Self Determination Theory (SDT)

This theory was an original thought of Ryan and Edward Deci (1985). They developed this theory as a theory of human personality, motivation and self-determination. This means the ability of a learner to make decision by himself or herself. The theory suggests that learners tend to be driven by the great need to grow and gain meaningful fulfillment. The assumptions of this theory include; a) behavior of a learner is driven by the need to grow or need for growth. It is assumed that a need for growth as a human being drives behavior that is why we tend to seek opportunities actively for growth and improvement. b) Motivation is a critical component. Though extrinsic motivation is effective, SDT focuses more on intrinsic motivation, meaning that internal sources of motivation which may include the need to gain knowledge to prove yourself.

There are various different external and internal factors that have a great impact on our motivation. While one may be motivated by their interests, curiosity and hunger to learn. This interplay between extrinsic factors and intrinsic motivation and needs is the core of Self Determination Theory. In order to facilitate growth, SDT outlines 3 core Psychological needs. They include autonomy, competence and relatedness. In order to be self-determined, learners need to meet these three needs. Competence touches on our need to feel effective and have mastery of the learning content.

When a learner is competent, he or she knows that he/she has all the skills needed to complete tasks at hand. It also helps the learner to interact effectively with environment. Relatedness means the need to feel connected to the peers. The feeling of a sense of belonging and attachment to others in order to be self-determined. The feeling of being

cared for taken care of, the feeling of valued in a community of a belonging to a social group without which one can't achieve. Autonomy is the feeling to control one's own behavior and goals. This is the psychological desire for independence and self-governance. The ability to feel in charge of our own lives, lack of control leads to disengagement. Being able to take direct action leads to self-determination.

SDT suggests that if you feel you have little or no control, you are less motivated to act. Motivation is key in this theory. Intrinsic motivation is governed entirely by internal factors such as the drive to success or thirst for new skills. Extrinsic motivation initiates behaviors for the sake of getting a reward or achieve an external goal such as praise or fame. It is at these levels of motivation in which students find learning more meaningful and therefore be more likely to engage (Deci & Ryan 2000).

Emphasizing the importance of autonomy, competence, and relatedness as key drivers of intrinsic motivation is one of the strengths of this theory. This theory has weaknesses such as placing too much emphasis on individualism and neglecting the role of collectivistic cultures in shaping motivation and behavior. It does not take into account the social and cultural factors that influence motivation. In the context of e-Learning and Kiswahili language education, SDT suggests that students' learning outcomes are influenced by their intrinsic motivation to learn Kiswahili, their perceived autonomy in navigating e-Learning platforms, and their sense of competence in acquiring language skills.

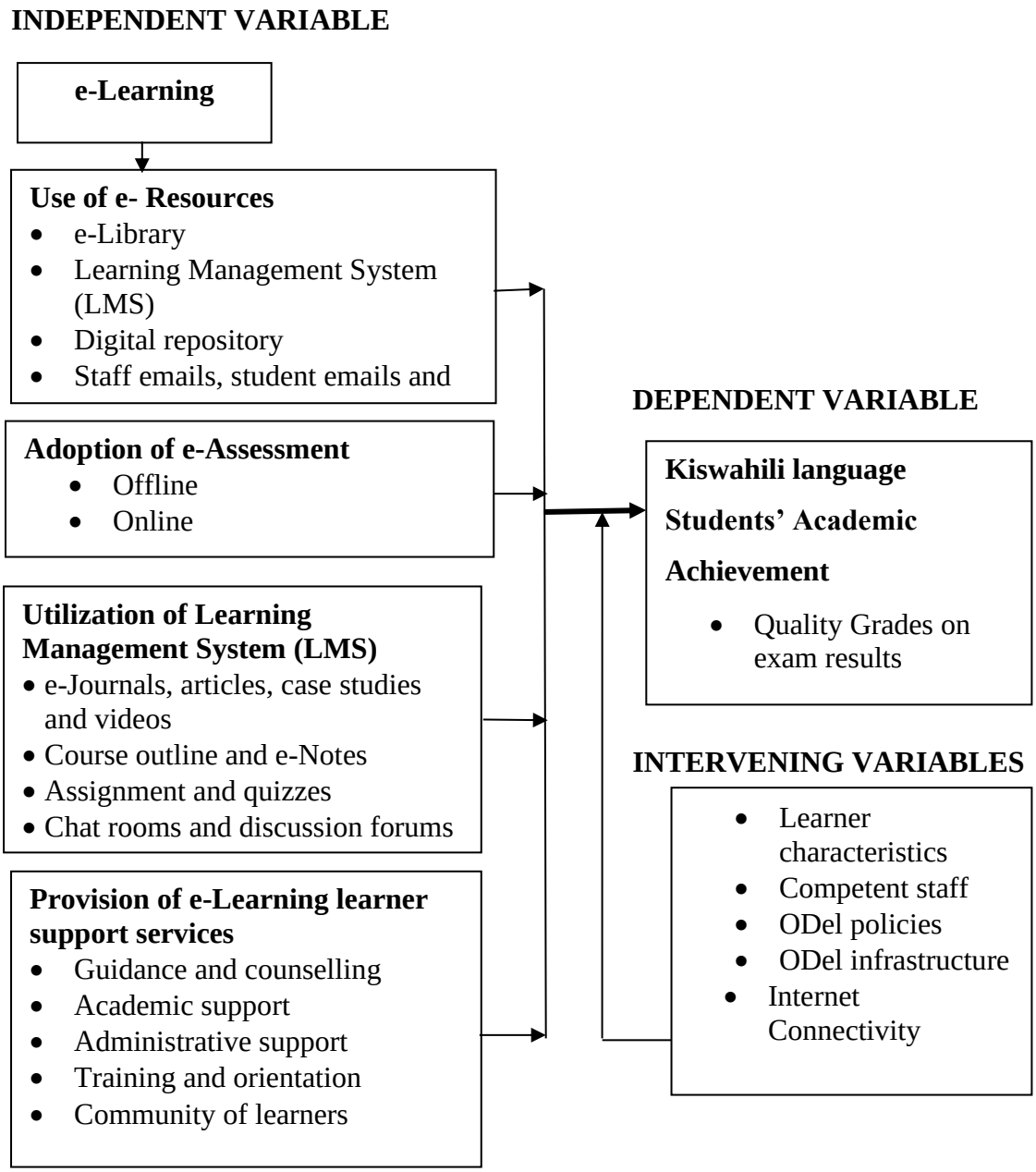
An e-Learning environment that supports learner autonomy by offering choice in learning activities, opportunities for self-directed inquiry, and constructive feedback can increase student motivation and engagement. In addition, fostering a sense of competence through scaffolded learning experiences and recognition of progress can

enhance students' confidence and persistence in acquiring Kiswahili. Moore's Transactional Distance Learning Theory and Self-Determination Theory complement each other by providing insight into different aspects of the e-Learning experience and their impact on Kiswahili learners' academic achievement. While Moore's theory focuses on the structural and communicative dimensions of distance learning, SDT delves into the motivational and psychological factors underlying learning behavior. Together, these frameworks offer a holistic understanding of how e-Learning environments can be designed to optimize learner engagement, autonomy and learning outcomes in Kiswahili education.

In summary, Moore's transactional distance learning theory and self-determination theory offer complementary perspectives on the relationship between e-Learning and academic achievement of Kiswahili students in selected Universities in Kenya. By considering transactional distance and self-determination as key factors shaping the e-Learning experience, educators and policy makers can develop strategies to increase the quality and effectiveness of online language learning programs, which will ultimately contribute to improved academic outcomes among Kiswahili learners.

2.6 Conceptual Framework

Conceptual framework is a model of presentation of relationship between variables (Orodho, 2008). A conceptual framework consists of foundational ideas and concepts that guide the entire research process, from conception and planning to implementation and conclusion. It serves as a model depicting the interrelationships between the various factors under study.



Source: Researcher (2022)

Fig.2.1: Conceptual Framework Showing Relationship Between e-Learning and Students' Academic Achievement in Kiswahili Language

In this study, the conceptual framework above shows the relationship between the independent variable, e-Learning and its components such as use of e-Resources, adoption of e-Assessment, use of LMS and provision of e-Learning support services. These elements collectively influence the dependent variable, students' academic achievement in the Kiswahili language, particularly as measured by the quality of

examination grades. Additionally, the framework acknowledges the presence of mediating variables including government policies, Internet connectivity, learner characteristics, and online distance education (ODeL) policies. These mediating variables may have positive or negative effects on the implementation of e-Learning, consequently affecting students' academic performance in the Kiswahili language.

2.7 Summary of literature review and research gaps

Previous studies mainly focused on the impact of e-Learning on overall academic performance in higher education settings. However, there was a significant gap in the literature regarding the precise relationship between e-Learning and academic achievement in Kiswahili among University students. This gap underscored the need for the present study, as there was a lack of existing research examining the relationship between e-Learning and the academic success of Kiswahili language students in Kenyan Universities. Hence, this research sought to fill this gap by exploring the association between e-Learning and Kiswahili language achievement in selected Universities in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the research design, research setting, target population, sampling procedure and sample size, research instruments, validity of the instruments, reliability of the instruments, data collection procedures, data analysis and finally ethical considerations.

3.1 Research Methodology

The study used a mixed methodology that combines qualitative and quantitative approaches to target breadth and depth perception (Cresswell 2008). Mixed methods refer to an emerging research methodology that advocates the systematic integration or blending of quantitative and qualitative data within a single inquiry or ongoing program of inquiry (Creswell & Plano, 2011). Hypothesis testing also uses this approach. This approach was used because the purpose of the study was to investigate the relationship between e-Learning and academic achievement of Kiswahili learners.

3.2 Research Design

This study was conducted using convergent parallel design. A convergent parallel design means that the researcher simultaneously conducts quantitative and qualitative elements at the same stage of the research process, considers methods equally, analyzes both components independently, and interprets the results together (Creswell & Pablo-Clark, 2011). Quantitative and qualitative data are collected simultaneously and analyzed separately. After completing both analyses, compare your results to draw overall conclusions.

3.3 Location of the Selected Universities

The study was carried out in three Universities. Two Universities were chartered public Universities namely; Machakos University in Machakos County and Murang'a University in Murang'a County. One University was a chartered private University; Catholic University of Eastern Africa (CUEA) in Nairobi County. Machakos and Murang'a Universities are the youngest Universities both established in 2016, the research seeks to establish if being the youngest Universities had developed ODeL policies. Catholic University represented the private Universities. The University is located in Nairobi County which houses ethnic diversity and being also among the oldest private Universities in the region. The 3 Universities had the ODeL Programs and Kiswahili language was part of their teaching programs.

3.3.1 Location of Machakos University

This University is a public University which is located in Machakos County. It is located along Machakos – Wote Road North-East Kitooni. The county lies between latitudes 1^0 31' 50.8" South and $1^0$53'08" South and Longitudes $37^0$15'44' East and $37^0$26'23" East. It shares its borders with eight counties: The county borders Nairobi and Kiambu counties to the West, Embu to the North, Kitui to the East, Makueni to the South, Kajiado to the South-West, and Murang'a and Kirinyaga to the North-West. The county has a population of 1,421,932 (Republic of Kenya, 2019) and an area of 30,389.7km2 (Wikipedia, 2021). The University was chosen on basis of age. It is one of the youngest public Universities therefore the researcher wanted to establish if the ODeL policies were in place.

3.3.2 Location of Murang'a University

Murang'a University is a public University located in Murang'a County. The county is one of the five counties in the Central region of the republic of Kenya. It lies on latitude $0^0$43' South and 107' South and Longitude 36^0 East and 37^0 27' East. It borders Nyeri County to the North, Kiambu County to the South, Kirinyaga, Machakos, and Embu Counties to the East, and Nyandarua County to the West. The County occupies a total area of 2,558.8km^2. This University is one of the youngest Universities in the Country (Infrotrak, 2020). The University was chosen on basis of age. It is one of the youngest public Universities therefore the researcher wanted to establish if the ODeL policies were in place.

3.3.3 Location of Catholic University of Eastern Africa (CUEA)

CUEA is a private University located in Nairobi County. The main campus of the University is located along Bogani East Road in the neighborhood called Langata, a south western neighborhood with the city of Nairobi, the capital of Kenya and largest city in the country. The geographical co-ordinates of the University Campus are Latitude $1^0$21'04.0" S and Longitude $36^0$45'28.0" E (Wikipedia,2021). The University was chosen on basis of age. It is one of the oldest private Universities therefore the researcher wanted to establish if the ODeL policies were in place.

3.4 Target Population

Mugenda and Mugenda (2008) defined target population as the complete census of all items or people in a research area of study. Target population is the kind of population the researcher intends to study. The target population was all the selected chartered Universities in Kenya; public and private, all the lecturers of Kiswahili language, all the Kiswahili Language students and all Directors of ODeL centers.

3.5 Sampling Techniques and Sample Size

Sampling is basically a process of selecting a given number of subjects from a defined population as a representative of the population (Orodho, 2008). Mugenda and Mugenda (2008) elaborated a sample size as the representative of a population for which the sample has been drawn from those variables that are relevant to the research being conducted. The sample size was 9 Kiswahili language lecturers, 3 Directors of ODeL Centers and 300 Kiswahili language students who were selected through purposive sampling and simple random sampling respectively. These techniques are effective since they give the true reflection of what is being studied.

Table 3:1 Population and Sample Sizes of the Study

Target Population	Total Population	Sampling Technique	Sample size (%)
Kiswahili Language students	1000	Simple Random	300 (30%)
Kiswahili Language lecturers	9	Purposive	9 (100%)
ODeL Directors	3	Purposive	3 (100%)

Source: Machakos, Murang'a and CUEA Universities (2022)

3.6 Research Instruments

The study used two questionnaires and an interview schedule. Each item in these instruments is developed to address a specific objective of the study.

3.6.1 Questionnaires

Kothari (2009) indicated that questionnaires are always free from interview bias as the answers are in respondents' own words. Questionnaires were administered to the respondents. They included the Kiswahili language lecturers and Kiswahili language

students. Cohen, Manion and Morrison (2011) explained that questionnaires are widely used and that they are useful instruments for collecting survey information, providing structured, often numerical data and often being comparatively straightforward to analyze. In this study questionnaires were administered to the respondents. The questionnaires included open and closed ended questions in line with the research objectives. Drop and pick later method was used. This method involved the questionnaires being delivered to the respondents for later collection after two weeks. The respondents had ample time to respond to the items in the questionnaire. Online questionnaires were administered to respondents who were off campus.

3.6.2 Research Interview schedule

Kumar (2014) posited that interview involves the interaction of a person to person which may be either face to face or otherwise, between two or more individuals who have specific purpose in mind. Punch (2006) explained that there are different interview methods which include semi-structured, unstructured and structured interview method. This study used structured interview schedule to collect data from the Directors of ODeL centers. Kumar (2014) elaborated that advantage of using structured interview is that it provides uniform information and hence comparability of data is assured since the researcher asks predetermined set of questions by ensuring same wording and same order as specified in the schedule.

3.7 Piloting of Research Instruments

A piloting of Research instruments is very important to check the validity, reliability and practicality of an instrument (Muijis, 2011). Piloting was conducted to ensure reliability of the research instrument. One University was used for the pilot study. The researcher therefore carried out a pilot study in the Scott University prior to the actual

study. This University offers ODeL program as well as teaching programs with Kiswahili Language. It did not form part of the actual study.

3.8 Validity of the Instruments

Kombo and Tromp (2006) elaborated validity as the extent to which an instrument measures what it is supposed to measure and performs what it has been designed to measure. Mugenda and Mugenda (2008) explained that validity is measured by making use of professionals or experts. The study made use of experts of research, assistance from the supervisors, peers and other lecturers to ensure content validity of instruments. The supervisors reviewed and analyzed items in the questionnaires in relation to the research objectives to ascertain suitability for the purpose for which it was designed.

3.9 Reliability of the Instruments

Kothari (2009) indicated that reliable instruments should produce same results from similar respondents over time. The research instrument was re-administered to the one University in the pilot study after two weeks. The researcher adopted test-retest reliability which means the stability of measures administered at different times to the same individuals or using the same stability using Chronbach Alpha. A reliability index of 0.82 was obtained and the instruments were deemed reliable. According to Cohen, Manion and Morrison (2011), a reliability index of 0.82 is considered high and therefore significant. Therefore, the instruments were reliable.

3.10 Data Collection Procedures

In the preparatory stages of data collection, the researcher carefully went through a series of procedural steps to ensure the ethical and legal compliance of the study. First, permission was carefully secured from Machakos University, which implies a commitment to institutional standards and ethical guidelines. Subsequently, a research

permit was obtained from the National Commission for Science, Technology and Innovation (NACOSTI), which underlines compliance with national regulations governing research activities. Subsequently, the researcher set about obtaining authorization letters from the respective Universities involved in the study. These letters served as a formal approval by the institutions, granting permission to enter their premises and negotiate with potential participants. At the same time, meetings were carefully booked to facilitate the administration of questionnaires and interviews with respondents.

The data collection procedure was characterized by systematic planning and coordination to ensure smooth execution of the study. Standardized protocols were followed during the administration of the questionnaires, with clear instructions to participants regarding the purpose of the study and the expected format of responses. In addition, measures were put in place to protect the confidentiality and anonymity of participants and to promote an environment conducive to open and honest disclosure. Similarly, the researcher used effective communication strategies while conducting the interviews to gain comprehensive insight from the respondents. Active listening and probing techniques were used to encourage participants to openly share their perspectives and experiences. Flexibility was maintained throughout the interview process, allowing for spontaneous exploration of relevant themes and topics as they arose.

3.11 Data Analysis

Data collected was sorted, edited, coded, entered, cleaned, processed and interpreted. Mathew and Ross (2010) indicated that the main purpose of data analysis is to describe, discuss, evaluate and explain the content and the characteristics of collected

information so as to be able to answer the research questions. Data analysis means examining data in order to make some conclusions. The data collected was both quantitative and qualitative. Qualitative data was analyzed using Thematic Analysis (TA). Ibrahim (2012) argued that TA is one of a cluster of methods that focuses on closely examining data to identify common themes such as topics, ideas, meaning and patterns that come up repeatedly.

Pattern identification is done through a rigorous process of data familiarization, data coding, theme development and revision (Ibrahim, 2012). Quantitative data was analyzed using both descriptive and inferential statistics. Descriptive data analysis methods included percentages and means. Inferential statistics used included Pearson Moment Correlation Coefficient and regression analysis. Regression analysis was used to test the hypotheses at 0.05 level of significance. Analyzed data was presented using frequencies and tables. The data collected was analyzed using Statistical Package of Social Studies (SPSS) latest Version 28.

Table 3:2. Data Collection Procedure Matrix

Research objectives	Research Instruments	Data Collection Procedures	Data Analysis Techniques
To determine the relationship between use of E-Resources and Kiswahili language students' academic achievement	i)Questionnaires ii)Interview schedule	i)Clearance from Machakos University ii)Permit from NACOSTI iii)Obtaining authorization letters from respective Universities iv)Administration of questionnaires and conducting interviews	**Quantitative data** i)Pearson Correlation ii)Regression Analysis **Qualitative data** i)Thematic Analysis (TA)
To establish the relationship between adoption of E-Assessment and Kiswahili language students' academic achievement.	i)Questionnaires ii)Interview schedule	i)Clearance from Machakos University ii)Permit from NACOSTI iii)Obtaining authorization letters from respective Universities iv)Administration of questionnaires and conducting interviews	**Quantitative data** i)Pearson Correlation Coefficient ii)Regression Analysis **Qualitative data** i)Thematic Analysis (TA
To assess the relationship between utilization of Learning Management System (LMS) and Kiswahili language students' academic achievement.	i)Questionnaires ii)Interview schedule	i)Clearance from Machakos University ii) Permit from NACOSTI iii)Obtaining authorization letters from respective Universities v)Administration of questionnaires and conducting interviews	**Quantitative data** i)Pearson Correlation Coefficient ii)Regression Analysis **Qualitative data** i)Thematic Analysis (TA)
To determine the relationship between provision of E-Learning support services and Kiswahili language students' academic achievement.	i)Questionnaires ii)Interview schedule	i)Clearance from Machakos University ii)Permit from NACOSTI iii)Obtaining authorization letters from respective Universities v)Administration of questionnaires and conducting interviews	**Quantitative data** i)Pearson Correlation Coefficient ii)Regression Analysis **Qualitative data** i)Thematic Analysis (TA)

3.12 Ethical Considerations

The researcher ensured the following code of conduct in her research undertaking.

3.12.1 Confidentiality

The right to privacy of the participants was conformed to by making sure that no identifying information was collected. The researcher ensured protection of participant's personal data.

3.12.2 Anonymity

The anonymity of respondents was ensured while collecting data by not collecting identifying information which may involve names, IP address, email addresses, phone numbers, and physical characteristics among others.

3.12.3 Informed Consent

The investigator ensured that all the participants received and understood all the information they need to decide if they participated in the study.

3.12.4 Decorum

Proper and polite behavior, in speech and dressing among others was ensured by the researcher. This gave the participants the confidence to participate in the study.

3.12.5 Plagiarism and Self Plagiarism

The researcher did not submit other people's work as own. The researcher did not copy someone's work without proper credit. The researcher did not allow self-plagiarism.

3.12.6 Storage of Data Collection

Data collected was kept secure and was not disclosed to unauthorized persons.

3.12.7 Voluntary participation

All the participants were to be free to participate in the study. They were free to accept or decline to be part of the study.

3.12.8 Research Misconduct

The investigator did not make up, falsify data, manipulate data analysis or misinterpretation results in the report.

3.12.9 Potential for harm

All possible sources of harm to participants whether psychological, social, physical or legal harm were considered.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study, discussion and their interpretation. The data interpretation report is mainly in tabular mode. The chapter starts with the instrument rate, the respondents' demographic information. Both quantitative and qualitative data was analyzed anchoring the four (4) objectives. The study was guided by the underlisted four objectives;

1. To determine the relationship between use of e-Resources and Kiswahili language students' academic achievement in selected Universities in Kenya.
2. To establish the relationship between adoption of e-Assessment and Kiswahili language students' academic achievement in selected Universities in Kenya.
3. To assess the relationship between utilization of Learning Management System (LMS) and Kiswahili language students' academic achievement in selected Universities in Kenya.
4. To determine the relationship between the provision of e-Learning support services and Kiswahili language students' academic achievement in selected Universities in Kenya.

The analysis of the data from students' responses, lecturers' responses and heads of ODeL centers in the three Universities was focused on the four hypotheses of the study in line with the above objectives of the study. The responses were analyzed into frequencies and percentages. Frequencies and Tables, pie chart and bar graphs were used to present the findings of the study. The analyzed data was arranged under themes that reflect the research objectives.

4.2 Response Rate

There were 3 sets of respondents namely students, lecturers and ODeL Directors. The sample size was 300 students, 9 lecturers and 3 ODeL Directors. The researcher administered 300 and 9 questionnaires to students and lecturers respectively. A total of 252 questionnaires from students and 8 questionnaires from lecturers were successfully filled and returned. At the same time, all the 3 ODeL Directors were interviewed. These gave a return rate as indicated in Table 4.1;

Table 4.1: Instrument Return Rate

Category	Sample Size	Number collected/Interviewed	Return Rate (%)
Students	**300**	**252**	**84**
Lecturers	**9**	**8**	**88.89**
Directors (ODeL)	**3**	**3**	**100**
Total	**312**	**263**	**84.29**

Table 4.1 reveals a high level of engagement with the research instruments, showcasing an 84% return rate for students, 88.89% for lecturers, and 100% for Directors of Open, Distance, and e-Learning (ODeL). These high response rates suggested a strong interest and involvement from the participants, indicating the relevance and importance of e-Learning in Kiswahili language academic achievement. The high return rate from ODeL Directors particularly underscores the institutional commitment to e-Learning as a critical component of academic achievement**.** The data above affirmed the assertions of Mugenda and Mugenda (2009) that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. Based on the assertion, the response rate was over 80% for each therefore excellent.

4.3 Background Information of the Participating Respondents

This section presents background information of the study respondents with the aim of gaining some understanding of the sample. Demographic data was categorized into major areas namely: gender (students, lecturers and Directors), programme studied (students), year of study (students), University attending (students), academic qualification of the lecturers, academic qualification of lecturers, and lecturers by institution of affiliation, ODeL Directors' administrative experience and duration since the launching of ODeL center. The research instruments solicited demographic information of the respondents as shown in Table 4.2 to Table 4.12 as follows;

4.3.1 Distribution of Gender of the Respondents

Information about the distribution of the respondents by gender was collected and the results are as indicated in Table 4.2:

Table 4.2: Distribution of the Students by Gender

Sex	Frequency	Percentage (%)
Male	123	48.8
Female	129	51.2
Total	**252**	**100**

Table 4.2 shows a fairly balanced representation of male students (48.8%) and female students (51.2%). This near equal gender participation is significant as it demonstrates the generalizability of findings across gender and highlights the inclusive nature of e-Learning platforms. The small preponderance of female participants is consistent with global trends in higher education, with female enrollment and participation rates often equaling or exceeding those of males. This distribution may indicate that e-Learning environments are equally attractive and accessible to male and female students and there is no gender difference in the use and benefits of e-Learning in

language learning. The data above corroborate the assertions of Secreto (2013) who posited that whilst female constitutes greater share in the enrolment, there is clear indication that online learning appeals to both genders.

Table 4.3: Distribution of the Lecturers by Gender

Sex	Frequency	Percentage (%)
Male	6	75
Female	2	25
Total	**8**	**100**

Table 4.3 shows a significant gender disparity in the gender distribution of lecturers, with 75% of respondents represented by males and only 25% by females. This imbalance highlights the gender gap in academic staff involved in e-Learning for the Kiswahili language, which may reflect broader trends in gender representation in higher education faculties, particularly in STEM and technology-enhanced learning environments. The predominance of male lecturers may influence the development and delivery of e-Learning materials, potentially affecting whether these educational resources are gender-inclusive. The data above lend credence to the assertions of UNESCO (2019) in that only 24% of academic staff in tertiary education across Sub Saharan Africa is female hence concurring with the findings of this study.

Table 4.4: Distribution of the Directors by Gender

Sex	Frequency	Percentage (%)
Male	3	100
Female	0	0
Total	**3**	**100**

Table 4.4 on gender distribution among Directors of OdeL in research on e-Learning and Kiswahili language academic achievement in selected Kenyan Universities shows a distinct male representation (100%). This total predominance of men in ODeL leadership positions may indicate significant gender disparity in higher education decision-making roles, particularly in the context of e-Learning. Such imbalances can influence the strategic direction and implementation of e-Learning initiatives, potentially affecting inclusion and consideration of diverse learning needs. This gender disparity in leadership roles may reflect broader systemic issues in educational institutions, where leadership positions, particularly in technology-enhanced education fields, are predominantly held by men. This situation underscores the need for greater efforts towards gender equality in higher education leadership to ensure diverse perspectives in the decision-making process and the development of e-Learning resources.

The data and observations above affirmed the assertions of Nyoni and He (2019) who found that there is women underrepresentation in senior management posts inside academic organizations both natural and international levels concurring with these findings. The gender distribution among academic staff in Universities showed significant inequality, with men often holding the majority of positions, especially in senior roles. In Advance HE's (2021) statistical report on equality in higher education, the percentage of female academic staff has increased from 40.0% in 2003/2004 to 46.7%, although women remain underrepresented in senior management and professorial roles. This suggests a gradual increase in female academic staff but highlights the continued dominance of men in higher academic positions.

4.3.2 Distribution of the Students by Programme

Information about the distribution of the respondents (students) by programme attended was collected and the results are as indicated in Table 4.5 below;

Table 4.5: Distribution of the Students by Programme

Programme	Frequency	Percentage (%)
B. ED	171	67.9
BA	81	32.1
Total	**252**	**100**

Table 4.5 on the distribution of study programs among students participating in research on e-Learning and Kiswahili language academic achievement in selected Kenyan Universities shows that a significant majority (67.9%) enrolled in Bachelor of Education (B.Ed.) programs, with the remaining 32.1% pursuing Bachelor of Arts (BA). This distribution suggests that e-Learning initiatives in Kiswahili language studies primarily impact teaching-focused programs, possibly because these students may have a more direct interest or need in acquiring language teaching skills. The underrepresentation of BA students suggests that e-Learning resources and strategies are more tailored or promoted toward education majors, or perhaps that these students have a more inherent interest in leveraging e-Learning for language study.

The predominance of B.Ed. students suggests that e-Learning is seen as particularly relevant or beneficial in teacher training programs in Kiswahili language academic achievement, possibly due to the emphasis on innovative teaching methods and the need for language proficiency in educational settings. The data and observations above affirmed the assertions of Hamad *et al.* (2022) who posited that e-Learning increases students' motivation to education, participation and attention, hence more B.Ed. students embrace e-Learning due to their motivation to learn language.

4.3.3 Distribution of the Students by Year of Study

Information about the distribution of the respondents (students) by year of study was collected and the results are as indicated in Table 4.6 below;

Table 4.6: Distribution of the Students by Year of Study

Year of Study	Frequency	Percentage (%)
First(1^{st})	36	14.3
Second(2^{nd})	75	29.8
Third (3^{rd})	100	39.7
Four (4^{th})	41	16.2
Total	**252**	**100.0**

Table 4.6 reveals a progressive increase in participation from the first year (14.3%) to the third year (39.7%) and (16.2%) in the fourth year. This data pattern may indicate that students become increasingly engaged with e-Learning resources as they progress in their studies, possibly due to increasing familiarity with digital learning platforms or a higher appreciation of the value of e-Learning for language acquisition as they progress through their course. The decrease in the fourth year may be attributed to a focus on completing graduation requirements or to less availability of e-Learning resources tailored to the needs of final-year students**.** The predominance of third-year students suggests that e-Learning platforms are particularly beneficial or are used more intensively in later stages of academic programs, possibly when students are more capable of independent learning and have a clear focus on their academic and career goals.

The decline in use of e-Learning resources among final year students in the fourth year may be influenced by various factors. The availability and tailored nature of e-Learning resources for final year students may also play a role in the decline. The data above

affirmed the assertions of Sridharan et al. (2010) who emphasized that decline in the use of e-Learning resources among final-year students in the fourth year may indeed be attributed to a combination of factors such as the focus on graduation requirements and the availability of corresponding resources. Addressing these issues by providing more targeted resources and increasing students' understanding of e-Learning technologies can help improve resource utilization and overall performance.

4.3.4 Distribution of the Students by University

Information about the distribution of the respondents (students) by University attending was collected and the results are as indicated in Table 4.7 below;

Table 4.7: Distribution of Students by University

University	Frequency	Percentage (%)
Machakos	100	39.7
Murang'a	52	20.6
CUEA	100	39.7
Total	**252**	**100**

Table 4.7 on distribution of students by University in research on e-Learning and Kiswahili language academic achievement in Kenya in the table above shows an equal number of participants from Machakos University and Catholic University of Eastern Africa (CUEA), each accounting for 39.7% of the total sample, while Murang'a University represents 20.6%. This distribution indicates the considerable interest and potential impact of e-Learning initiatives in various University settings. The similar representation of students from Machakos and CUEA suggests that e-Learning in Kiswahili language studies may be similarly integrated or prioritized in these institutions, potentially facilitating a rich comparative analysis of e-Learning outcomes. Murang'a's lower representation may reflect either a smaller student population or

different levels of engagement with e-Learning in Kiswahili language studies. The data for Murang'a University was collected while all the respondents were off-campus which led to administration of online questionnaires for students and lecturers as well as telephone interview for the ODeL Director. The off-campus factor therefore may have affected the return rate and subsequent distribution Students by University they were attending since may not have seen or filled the online questionnaire.

4.3.5 Distribution of the Lecturers by Academic Qualifications

The research instruments also elicited information on respondents' academic qualifications since this variable could influence their ability to supply credible information about the research objectives. The results are as indicated in Table 4.8;

Table 4.8: Distribution of Lecturers by Academic Qualification

Qualification	Frequency	Percentage (%)
PhD	6	75
Masters	2	25
Total	**8**	**100**

Table 4.8 presents the distribution of lecturers by academic qualification and reveals a significant inclination towards higher academic qualifications among the respondents, with 75% holding PhDs and 25% possessing Master's degrees. This distribution suggests a highly qualified cadre of lecturers involved and it reflects the Universities' commitment to high-quality education and research in the area of e-Learning and language studies. The predominance of PhD holders could imply that these institutions prioritize advanced research skills and deep subject matter expertise in delivering and developing e-Learning content for Kiswahili language studies. This level of qualification among lecturers may enhance the quality of e-Learning modules,

potentially leading to more effective learning outcomes and higher academic achievement in Kiswahili language studies.

The implication of this distribution is significant; it suggests that the design, implementation, and evaluation of e-Learning strategies in Kiswahili are being conducted by highly qualified professionals. This might contribute positively to the academic achievement of students by ensuring that e-Learning content is not only of high quality but also pedagogically sound and research-based. The data above affirmed the assertations of Sokoli and Koren (2017) who conclude that the quality teaching in institution of higher learning is dependent of many factors and qualification of the lecturer remains a major one. According to the researchers, is good to note that lecturers with PhD bring in a lot of knowledge that may impact the quality of teaching positively than lecturers with masters. Teaching offered by lecturers with PhD is of better quality than teaching of lecturers without PhD.

4.3.6 Distribution of the Lecturers by Institution of Affiliation

Information about the distribution of the respondents (lecturers) by institution of affiliation was collected and the results are as indicated in Table 4.9 below;

Table 4.9: Distribution of Lecturers by Institution of Affiliation

University	Frequency	Percentage
Machakos	2	25
Murang'a	3	37.5
CUEA	3	37.5
Total	**8**	**100**

Table 4.9 presents the distribution of lecturers by their University of affiliation in this study reveals a relatively balanced participation across the institutions, with Murang'a University and CUEA each contributing 37.5% of the lecturers, and Machakos

University contributing 25%. This distribution suggests a collaborative effort among these Universities to explore the impact of e-Learning on language academic achievement, reflecting a shared interest in enhancing educational outcomes through digital learning platforms.

The balanced representation from Murang'a and CUEA, along with a slightly lower participation from Machakos University, could indicate a broader engagement with e-Learning initiatives within these institutions or potentially reflect the size or focus of their respective Kiswahili departments. The involvement of lecturers from these diverse academic environments might enrich the study with a variety of perspectives on e-Learning practices, potentially leading to more comprehensive insights into the effective integration of e-Learning in Kiswahili language studies.

4.3.7 Distribution of the Lecturers by Teaching Experience

Information about the distribution of the respondents (lecturers) by institution of affiliation was collected and the results are as indicated in Table 4.10 below;

Table 4.10: Distribution of Lecturers by Teaching Experience

Experience (Years)	Frequency	Percentage (%)
2	3	37.5
3	1	12.5
4	1	12.5
5	1	12.5
7	1	12.5
10	1	12.5
Total	**8**	**100**

Table 4.10 presents the distribution of lecturers by teaching experience in this study shows a wide range of experience levels, with 37.5% having 2 years of experience, followed by an even spread across other experience levels from 3 to 10 years, each

accounting for 12.5%. This diversity in teaching experience among lecturers could provide a broad perspective on the integration and effectiveness of e-Learning in Kiswahili language instruction. The presence of relatively newer instructors (with 2 to 5 years of experience) alongside more seasoned educators (with up to 10 years of experience) suggests that the study could benefit from both fresh perspectives on innovative e-Learning approaches and the wisdom of more established teaching methodologies.

This varied experience distribution might imply that e-Learning in Kiswahili language studies is being embraced across different stages of academic careers, possibly indicating a widespread recognition of its potential benefits regardless of traditional teaching tenure. The involvement of lecturers with less experience could also suggest that newer faculty members are particularly open to or required to engage with e-Learning strategies, possibly as a reflection of changing educational paradigms. The data above affirmed the assertations of Griffioen et al. (2013) who found that lecturers' research self-efficacy is mainly affected by mastery experience in similar contexts.

4.3.8 Distribution of the Directors' Administration Experience

Information about the distribution of the respondents (Directors) by their administrative experience was collected and the results are as indicated in Table 4.11 below;

Table 4.11: Distribution of Directors' Administrative Experience

Administrative Experience (Years)	**Frequency**	**Percentage (%)**
3	2	66.7
4	1	33.3
Total	**3**	**100**

Table 4.11 shows a relatively narrow range of administrative experience distribution among Directors of (ODeL), two-thirds (66.7%) with 3 years of experience and one-third (33.3%) with 4 years. This suggests that Directors are relatively new to their administrative roles, which may have implications for the implementation and monitoring of e-Learning initiatives. This recent entry into these positions may reflect a new perspective towards adopting innovative e-Learning strategies and keen interest in leveraging digital platforms to enhance Kiswahili language academic achievement.

The relatively short period of administrative experience among ODeL Directors suggests a phase of transition and adaptation to digital learning methods in these institutions. This scenario offers an opportunity to shape the e-Learning landscape in a way that suits the evolving needs of language learning. The data above corroborate the findings of Maboe (2019) who posits that ODeL institutions must provide academic, administrative, and technical support to ensure successful online learning and interaction for distance students.

4.3.9 Duration since the launching of e-Learning Programmes in the Universities

Information about the distribution of duration since the launching of e-Learning programme was collected and the results are as indicated in Table 4.12 below;

Table 4.12: Distribution of the Duration since the Launching of e-Learning Programmes in the Universities

Date of Launching	Frequency	Percentage (%)
2020	1	33.3
2014	1	33.3
2019	1	33.3
Total	**3**	**100**

Table 4.12 presents the distribution of time since e-Learning program launch in the three Universities participating in the study on e-Learning and Kiswahili language academic achievement in Kenya presents a varied landscape, with each University launching its e-Learning program in different years; 2020, 2014 and 2019. This distinction allows for analysis across a spectrum of maturity levels in e-Learning programs, from early stages of implementation to more established programs. Program age diversity may affect the effectiveness and integration of e-Learning strategies, possibly influencing Kiswahili language academic achievement differentially across institutions.

The recent launch of an e-Learning program at one University (2020) may indicate an immediate adaptation to digital learning necessitated by external factors such as the COVID-19 pandemic. Conversely, a University with an e-Learning program launched in 2014 may have more experience and potentially a more refined approach to digital learning. Variation in launch dates may reflect varying levels of student engagement with technological infrastructure, faculty training, and e-Learning resources. The data above affirmed the assertations of Srinivasan (2020) who asserted that e-Learning platforms have become increasingly popular in education during the COVID-19 crisis due to their ability to enhance learning.

4.4. The Relationship between Use of e-Resources and Kiswahili Language Students' Achievement

This section addresses the first objective of the study; to determine the relationship between the utilization of e-Resources and the academic achievement of Kiswahili language students. The descriptive results provide a foundational understanding of the frequency, patterns, and characteristics of e-Resources usage among Kiswahili language students. The Inferential results delve into the statistical relationship between

e-Resources usage and academic achievement, aiming to determine if there is a significant correlation between these variables. Statistical techniques; correlation analysis and regression analysis were employed to assess the strength and direction of the relationship. Thematic analysis findings offer a qualitative exploration of the underlying themes, experiences, and perceptions related to e-Resources usage and academic achievement among Kiswahili language students.

4.4.1 Descriptive Results on the Relationship between Use of e-Resources and Kiswahili Language Academic Achievement

Objective one of the study sought to determine the relationship between use of e-Resources and Kiswahili language students' academic achievement in selected Universities in Kenya. Data was collected from the three Universities, organized, summarized and analyzed in form of percentages and frequencies and results are as shown in tables 4.13 to 4.25.

Table 4.13: Distribution of Student Owned and University supported e- Resources by University

Source	Resource	Percentage (%)
Owned	Computer /laptop	92.5
	Mobile Phones	57.1
	e-Learning Materials (CDs, DVDs, e-Books, e-Journal, software)	31.3
	Others	8.0
University Supported	Computer /Laptop	34.9
	Learning Management System (LMS)	51.2
	e-Library	66.3
	e-Learning Materials (CDs, DVDs, e-Books, e-Journal, software)	23.4
	Digital Repository	57.9
	Internet Services	83.3
	Others	2.4

Table 4.13 shows the distribution of student-owned and University supported e-Resources in selected Kenyan Universities, as part of research into e-Learning and Kiswahili language academic achievement, reveals significant insights into the digital learning landscape. A high percentage of students (92.5%) own a computer or laptop, and a majority (57.1%) use mobile phones for their studies, indicating a strong personal investment in digital learning tools. However, only 31.3% of students have personal access to e-Learning materials such as CDs, DVDs, e-Books, e-Journals, and software, and even fewer (8%) report owning other types of e-Resources. In contrast, the Universities seem to play a crucial role in providing essential e-Learning resources.

Although a lower percentage of students (34.9%) receive computers or laptops from their Universities, a significant majority has access to a Learning Management System (LMS) (51.2%), e-Library (66.3%), and internet services (83.3%). The provision of Digital Repositories by Universities (57.9%) and specific e-Learning materials (23.4%) further supports students' academic pursuits**.** The relatively low figure for other types of resources (2.4%) provided by Universities could indicate a focus on core e-Learning tools and infrastructures. These findings suggest a collaborative ecosystem of e-Learning where both students and Universities contribute resources towards academic achievement. The high personal ownership of computers/laptops and mobile phones among students indicates a readiness to engage with digital learning platforms.

However, the essential support from Universities in providing access to LMS, e-Libraries, Digital Repositories, and reliable internet services underlines the institution's role in facilitating an effective e-Learning environment. This infrastructure is particularly crucial for students who might not afford personal copies of extensive e-Learning materials. The disparity in the provision of e-Learning materials (owned vs.

provided) highlights the importance of universities in ensuring equitable access to essential learning resources. It suggests that while students are willing to invest in basic technology, they rely significantly on universities for specialized academic content and platforms, which are critical for their studies in Kiswahili language and other disciplines.

The findings corroborate the findings of Littlejohn (2003) who suggests that Universities can contribute to equitable access to e-Learning resources by developing, sharing, and reusing digital learning resources, addressing educational design, standards, and culture and organization issues. These results lend credence too to the assertions of IFLA (2012) that e-Resources as materials which require computer access whether main frame computer, personal computer or handheld mobile device. These can be accessed either remotely or locally.

These results corroborate the assertions of Afolabi (2007) who found that online databases are a collection of electronic information sources such as e-Journals, e-Books among others by different publishers from various fields and discipline. e-thesis is thesis in digital forms and they can be accessed through the internet. e-Mails refer to electronic messages from a sender to recipient. The findings also corroborate the findings of Akussah et al. (2015) who noted that accessing online databases, accessing electronic journals and check out books associated with performance of students studying at the library and use of online data bases.

Table 4.14: Distribution of Lecturers Owned and University Supported e-Resources by University

Source	Resource	Percentage (%)
Owned	Computer/Laptop	100
	Mobile Phones	100
	e-Learning Materials (CDs, DVDs, e-Books, e-Journal, software)	75.0
	Others	0.00
University Supported	Computer /Laptop	62.5
	Peripherals	50.0
	Learning Management System (LMS)	100
	e-Library	75.0
	e-Learning Materials (CDs, DVDs, e-Books, e-Journal, software	50.0
	Digital Repository	62.5
	Internet Services	87.5
	Others	0.0

Table 4.14 presents the distribution of lecturer-owned and University-provided e-Resources in this study reveals a comprehensive embrace of digital tools and materials by lecturers. Every lecturer owns a computer/laptop and a mobile phone, which underscores the universal adoption of basic digital technology in academic settings. Furthermore, 75% of lecturers have personal e-Learning materials such as CDs, DVDs, e-Books, e-Journals, and software, highlighting their investment in resources that enhance teaching and research capabilities. From the University's end, there is substantial support for digital teaching and learning infrastructure.

All lecturers have access to LMS, indicating a universal commitment to digital education platforms. Additionally, 62.5% are provided with computers/laptops and Digital Repositories, 50% with peripherals and e-Learning materials, and 75% with e-Library access. The provision of internet services at 87.5% further ensures that lecturers

can reliably access online resources and platforms, essential for both preparing and delivering e-Learning content.

The full provision of LMS and high access rates to internet services and e-Libraries by Universities reflect an institutional prioritization of digital education infrastructure. This robust support is crucial for lecturers in adapting their teaching strategies to include e-Learning effectively, thereby potentially enhancing Kiswahili language academic achievement among students. The significant personal investment by lecturers in digital tools and materials complements the University's provision, creating a rich e-Learning environment conducive to academic excellence. The implications of this data are profound. The high level of digital resource ownership among lecturers, coupled with substantial institutional support, suggests an environment ripe for innovative e-Learning practices.

This scenario likely facilitates diverse teaching methodologies, including blended learning and fully online courses, which can cater to different learning styles and needs, thus potentially improving Kiswahili language proficiency and academic achievement. However, the discrepancy in the provision of certain resources (only 50% having University-supported e-Learning materials) might indicate areas where further support could enhance teaching effectiveness. Ensuring that all lecturers have comprehensive access to digital teaching materials and peripherals could further enrich the e-Learning ecosystem. These results were consistent with the findings of a study of Xian-wen (2006) who found that e-Learning, supported by digital campuses, offers a superior teaching environment for Universities, improving teaching source, management, and communication between teachers and students.

The results were further consistent with the findings of Goian (2004) that instructional content can be gotten by instructor through e-Resources hence providing opportunities for teaching strategies. These results corroborate the assertions of Okite-Amughoro et al. (2015) who indicated that academic libraries have reached an era of replacing printed research materials with electronic materials that are widely accessible through World Wide Web Technology (www). The results were further consistent with findings of Afolabi (2007) who found that online databases are a collection of electronic information sources such as e-Journals, e-Books among others by different publishers from various fields and discipline. e-Thesis is thesis in digital forms and they can be accessed through the internet. e-Mails refer to electronic messages from a sender to recipient.

Table 4.15: Distribution of Directors' Ownership of e-Resources

Provider	Resource	Frequency	Percentage (%)
Owned	Computer/Laptop	3	100
	Mobile Phones	3	100
	e-Learning Materials (CDs, DVDs, e-Books, e-Journal, software)	3	100
	Others	**0**	**0**
Total		**3**	**100**

Table 4.15 indicates that all ODeL Directors (100%) report owning computers/laptops, mobile phones and various e-Learning materials (CDs, DVDs, e-Books, e-Journals, software), but none have other types of e-Learning. This uniformity in ownership of key e-Learning tools among resource Directors suggests a strong infrastructural base to support e-Learning initiatives in Kiswahili language education. The complete lack of response on "any other" category indicates an over reliance on the use of traditional

e-Learning resources. The data implies that there was a solid foundation for integrating e-Learning into Kiswahili language studies, potentially facilitating improved academic achievement through widespread access to essential digital learning tools.

The findings corroborate the findings of Willems and Bossu (2012) who found that equity considerations are fundamental in the design of open educational resources (OER), as challenges in accessing digital materials for learning persist for some. The findings are further consistent with findings of IFLA (2012) who found that e-Resources as materials which require computer access whether mainframe computer, personal computer or handheld mobile device. These can be accessed either remotely or locally.

4.4.2 Thematic Analysis of Qualitative Findings on the Relationship between Use of e-Resources and Kiswahili Language Academic Achievement in Selected Universities in Kenya

4.4.2.1 Teaching Resources Available in the ODeL Centers

The researcher also conducted interviews amongst ODeL Directors to determine the relationship between e-Resources and Kiswahili language students' academic achievement, the researcher sought to establish the teaching resources available in the University and the following are the responses of the Directors;

One of the Directors stated:

> *"The available teaching resources available in the University are e-Notes, journal articles, videos, e-Library, and LMS*." (DIR.1)

This Director's emphasis on digital resources such as e-Notes, journal articles, videos, e-Libraries, and LMS highlights a focus on providing accessible and diverse online

materials that can support students' learning needs across different subjects, including Kiswahili language studies.

Another Director noted:

> "*The resources available in our institution include; e-Library, smart board, overhead projectors, Google meet, Kenet web conference*." (DIR.2)

The Director's mention of smart boards, overhead projectors, Google Meet, and KENET web conference points towards an integration of interactive technology and web conferencing tools that facilitate real-time communication and collaboration, vital for enhancing engagement and participation in an e-Learning environment.

The third Director said:

> *"Our institution has acquired and also made available*; *Projectors, computer lab, recording equipment (hardware)."* (DIR.3)

The Director's focus on physical infrastructure like projectors, computer labs, and recording equipment indicates the importance of having dedicated spaces and tools for creating and delivering content, which can be particularly useful for demonstrations, language pronunciation exercises, and recording lectures for asynchronous access. The above qualitative data of teaching resources as detailed by the Directors of Open, Distance, and e-Learning (ODeL) programs in this research presents a rich and varied landscape of digital and physical educational tools. These resources, ranging from e-Notes, e-Journal articles, videos, e-Libraries, LMS, smart boards, overhead projectors, to more specialized tools like Google Meet, KENET web conference, and recording equipment, reflect a comprehensive approach to supporting e-Learning. The array of resources identified by the Directors underscores a significant investment in e-Learning infrastructure.

This multiplicity of resources provided by the Universities signifies a blend of traditional and modern educational practices, catering to a broad spectrum of teaching and learning styles. The provision of both digital and physical resources ensures that lecturers have the flexibility to design and implement varied instructional strategies, thereby enhancing the e-Learning experience and potentially improving academic outcomes in Kiswahili language studies. Furthermore, the inclusion of LMS across the responses highlights the central role of these platforms in organizing course content, facilitating assessments, and enabling interaction, which is crucial for the successful delivery of e-Learning programs.

The implications of such a diverse range of teaching resources are profound. First, it reflects a commitment to leveraging technology to support educational goals, indicating that Universities are adapting to the digital age by equipping both faculty and students with the tools necessary for effective e-Learning. Secondly, the specific mention of resources like e-Libraries and journal articles is particularly relevant for language studies, where access to a wide range of reading materials can significantly enhance language learning and academic achievement. Third, the availability of interactive and collaborative tools like smart boards, Google Meet, and web conferencing software supports the development of communicative competencies in Kiswahili, enabling students to practice and improve their language skills in dynamic settings.

In conclusion, the distribution of teaching resources as confirmed by the Directors points towards a holistic approach to e-Learning, integrating both digital innovations and essential physical infrastructure. This approach not only facilitates a rich learning environment conducive to academic achievement in Kiswahili language studies but also prepares students for the digital literacy demands of the 21st century. The focus on a

wide array of e-Resources reflects an understanding of the multifaceted nature of language learning, where access to diverse materials and interactive platforms can significantly impact students' engagement and success. These findings lend credence to the findings of a study conducted of Rakic et al. (2020) who posited that Digital educational resources from e-Learning platforms significantly improve student performance in various courses.

4.4.2.2 Learning Resources Available

The researcher sought to establish the learning resources available in the University and the following are the responses of the Directors;

One of the Directors noted:

> *"We have case studies, course outlines, and repositories as the main learning resources in our center."* (DIR.1)

The second Director stated:

> *"The University has made available several learning resources such as; e-data bases, e-Library, repository students' emails, student conferences, state of art cameras, free Wi-Fi and LMS."* (DIR.2)

The third Director said:

> *"The University administration has made available LMS, e-Books, journals, e-articles, repository, internet connectivity, e-Mail services."* (DIR.3)

The data on the availability of learning resources provided by Directors of ODeL from selected Kenyan Universities reveal a variety of resources aimed at facilitating e-Learning and thereby potentially influencing Kiswahili language education. Achievement responses highlight a mix of traditional and digital resources, including case studies, course outlines, e-Databases, e-Libraries, repositories, student email, student councils, state-of-the-art cameras, free Wi-Fi, Learning Management Systems (LMS), e-Books, journals, e-articles and internet connectivity.

This diversity in learning resources suggests a comprehensive approach to e-Learning, integrating both content delivery and interactive components. The inclusion of digital resources such as e-Database, e-Library and LMS indicates a shift towards a more accessible and flexible learning environment, which can enhance student engagement and learning outcomes in Kiswahili language studies. An emphasis on technology, such as state-of-the-art cameras and free Wi-Fi, further supports this, giving students the means to access learning materials and participate in online learning activities.

This data suggests that the availability of a wide range of learning resources, especially digital ones, can have a positive impact on students' learning experiences and outcomes in Kiswahili studies. This availability may be associated with better academic achievement, as it provides students with a variety of tools and platforms to engage with content practice their language skills, and interact with peers and instructors. Thus, the findings may underline the importance of investing in diverse and quality e-Learning resources to enhance academic achievement in Kiswahili language study among University students in Kenya.

These findings lend credence to the findings of a study conducted by Mothibi (2015) who found that e-Learning and ICT have a significant positive impact on students' academic achievement in higher education. The findings are further consistent with the findings of Nyagah et al. (2018) who investigated the effectiveness of an e-Learning platform in improving student performance in mathematics courses in a Kenyan University. The findings revealed a positive relationship between engagement with online resources and academic achievement, emphasizing the importance of interactive and student-centered e-Learning approaches.

4.4.2.3 Management of ODeL Centers

The researcher sought to establish who manages the ODeL Center and the following are the responses of the Directors;

One of the Directors noted:

> *"Our ODeL Center is mandated to manage the e-Learning programme and lecturers are in charge of their content uploaded."* (DIR.1)

This statement is echoed by the third Director who said:

> *"The ODeL Center runs the management of the programme and content."* (DIR.3)

These two Directors highlighted that the ODeL Center itself is primarily responsible for the management of the programme, with lecturers responsible for their own content. These observations suggest a centralized management structure with a focus on content quality and program coordination, which is crucial for the effective delivery of e-Learning. The mention of lecturers managing their own content underlines the importance of academic autonomy in the creation and dissemination of educational content, which can lead to more engaging and relevant content for students studying Kiswahili.

However, the second Director notes the collaborative management approach between the library department and the ODeL Center. He noted:

> *"Our Library Department manages the programme in conjunction with ODeL center.*" (DIR.2)

The qualitative data on the management of ODeL centers in selected Universities in Kenya show a consistent approach to monitoring and administration of e-Learning programmes, with little variation in the involvement of different departments. The implications of these data for research are significant. The management structure of ODeL centers can directly affect the quality of e-Learning experiences, affecting

students' academic achievement in Kiswahili language studies. A well-organized ODeL center, especially one that fosters collaboration between different departments such as the library and ODeL, can ensure that students have access to high-quality resources and support.

This, in turn, can enhance learning outcomes by providing a structured yet flexible learning environment that accommodates the needs of diverse learners. Thus, the effectiveness of ODeL management is a key factor in the success of e-Learning programs and their ability to improve Kiswahili language academic achievement among University students in Kenya. The findings corroborate the findings of Ikinya and Okoth (2013) who found effective cost management and distance learning methodologies can improve the performance of students in distance learning programs. The findings are further consistent with the findings of Desarrollo (2008) who stated that academic achievement is dependent upon various factors which include the institutional leadership, teacher motivation, student attitude and availability of resources.

4.4.2.4 Rate of Adequacy of e-Resources

The researcher sought to establish the rate of e-Resources adequacy in the University and the following are the responses of the Directors**;**

One Director said:

> "*The* e-Resources *available in the University are adequate depending on the area of study for example; Humanities and School of Education are adequate."* (DIR.1)

This Director specifies adequacy is contingent on the area of study, noting that fields such as Humanities and the School of Education have sufficient resources. The distinction made by the Director illuminates an important consideration in evaluating

e-Resource adequacy: the subject-specific needs. It implies that while overall resources are deemed adequate, the level of adequacy might vary by discipline, which could influence how e-Learning is implemented and experienced in different fields of study. The second one stated:

> "*The both teaching and learning e-Resources available in our institution currently are adequate."* (DIR.2)

These words were echoed by the third Director who said:

> "*The resources available in our University at the moment are adequate."* (DIR.3)

The second and third Directors broadly affirm the adequacy of resources without specifying any particular area, suggesting a wide-reaching satisfaction with the current e-Resource provision across various disciplines. This consensus among the Directors implies that the Universities have successfully met the e-Resource needs for supporting e-Learning, at least in the areas mentioned and possibly more broadly. The feedback from Directors of ODeL on the adequacy of e-Resources in selected Universities in Kenya presents a generally positive outlook, with all Directors deeming the resources to be adequate. The implication of this qualitative data for the research on the relationship between e-Learning and Kiswahili language academic achievement is multifaceted.

Firstly, it suggests that, at least for some areas of study, the availability of e-Resources may not be a limiting factor for academic achievement. This could imply that for Kiswahili language studies, if classified similarly to Humanities or Education in terms of resource allocation, the potential for achieving positive academic outcomes through e-Learning is high. However, the data also raises questions about the specific adequacy of resources for Kiswahili studies and whether this adequacy translates into effective learning and teaching practices. Thus, while the overall adequacy of e-Resources is a

positive sign, the research must further explore how these resources are utilized in Kiswahili language learning and their direct impact on academic achievement.

This exploration could reveal insights into how e-Resources can be optimized or supplemented to further enhance learning outcomes in Kiswahili and other disciplines. These findings are also consistent with the assertions of Rakic et al. (2019) who posited that digital resources at the e-Learning platform have strong effects on student success, and students with similar grades tend to cluster together. The findings corroborate the findings of Cheng (2013) who asserted that the availability and adequacy of teaching and learning resources were much related to and promote organization effectiveness in terms of academic achievement.

Table 4.16: Distribution of Students' Frequency of Use of e-Resources

Type of Resource	Very often %	Often %	Occasionally %	Rarely %	Never %
Computer/Laptop	33.7	29	14.3	10.7	12.3
Peripherals	54.4	22.2	9.5	5.2	8.7
e-LMS	22.6	27.0	17.9	11.9	20.7
e-Library	13.9	24.2	20.6	12.3	29.0
e-Learning Materials	11.1	11.1	17.1	19.8	40.9
Digital Repository	19.8	24.6	17.9	6.0	32.3
Internet Services	53.1	22.6	9.5	2.8	11.5
Student Email	29.0	15.5	17.9	16.7	21.1
Others	2.0	1.2	2.4	1.2	93.3

Table 4.16 shows that the majority (62.7%) of students frequently use computers/laptops for e-Learning, highlighting their centrality in accessing educational content. However, a notable portion (23%) rarely or never uses these devices, possibly due to issues such as lack of access or digital literacy. This digital divide can adversely affect Kiswahili language learning outcomes, emphasizing the need for strategies to increase access and proficiency in digital tools to support equitable academic

achievement. The data on peripherals shows that a significant majority (76.6%) of students uses peripherals frequently or very often in their e-Learning endeavors, indicating a greater reliance on these devices to enhance their learning experience.

However, a small but significant minority (14%) rarely or never use it, which may indicate accessibility or awareness issues. Addressing this gap is important to ensure that all students can fully engage with e-Learning resources, potentially improving Kiswahili language learning outcomes. The data on frequency of use of LMS further shows that half of the students (49.6%) frequently use LMS, indicating a moderate level of engagement with this key e-Learning tool. However, a significant 20.7% never use LMS, and 11.9% rarely do, pointing to a considerable portion of the student population that is not fully leveraging these platforms.

This underuse could impede the effective delivery of Kiswahili language courses, suggesting a need for increased training and awareness to boost LMS adoption and thereby potentially enhance academic achievement in Kiswahili studies. The data on frequency of use of library also shows varied engagement with e-Libraries among students, with 38.1% using them often or very often, indicating a moderate level of use. However, a significant 29% never access e-Libraries, and 12.3% rarely do, highlighting a significant gap in the use of this critical e-Resource. This underutilization may hinder students' access to a wider range of educational content, potentially affecting Kiswahili language academic achievement.

Increasing awareness and accessibility of e-Libraries can improve their use and positively impact learning outcomes.

This data on the frequency of use of e-Learning materials presents a relevant trend in the use of e-Learning materials among students, with a significantly high 40.9% never using them and 19.8% rarely doing so. This indicates significant under exploitation of key educational resources, which may adversely affect the learning process and outcomes, particularly in terms of Kiswahili language academic achievement. Addressing barriers to accessing and using e-Learning materials is critical to increasing engagement and improving academic success in e-Learning environments**.** The data on the frequency of use of repositories indicate a mixed level of engagement with Digital Repositories among students, with 44.4% using them frequently or very often, indicating a fair level of usage.

However, a significant 32.3% never use Digital Repositories, and 6% rarely do, indicating significant inadequate utilization of this valuable e-Resource. This gap in engagement may limit students' access to diverse learning materials, potentially affecting their academic performance in Kiswahili studies. Increasing accessibility and promoting the benefits of Digital Repositories can improve access and positively influence academic achievement. Further, data on the frequency of use internet shows a high engagement with Internet services among students, with 75.7% using it often or very often, indicating that most people recognize and use the Internet as an important tool for e-Learning.

However, a significant 11.5% never use Internet services, which may significantly hinder their access to e-Learning resources and opportunities, potentially affecting Kiswahili language academic achievement. Ensuring universal access to Internet services is important to support equitable educational outcomes in an e-Learning environment. The data on frequency of use of emails reveals a moderate level of student

engagement with email, with 44.5% of students using it frequently or very often for their e-Learning needs. However, a significant portion, 21.1%, never uses it, and 16.7% rarely do, indicating that a significant number of students are not fully utilizing this basic communication tool.

This underuse can affect the effectiveness of e-Learning, including Kiswahili language learning, by hindering communication and access to resources. Increasing the use of email can improve educational outcomes by promoting better communication and information dissemination. Data on the "other" category of e-Resources shows extremely low engagement, with 93.3% of students never using these resources for their e-Learning needs. This suggests that these additional e-Resources, whatever they may be, are either unknown, inaccessible or considered irrelevant by most students.

The marginal use of these resources indicates a missed opportunity to enhance learning experiences, potentially affecting academic achievement in Kiswahili language studies. Addressing awareness and accessibility of these additional e-Resources may reveal untapped educational benefits. The findings also corroborate the findings of Mani et al. (2019) found that the frequent use of electronic resources in Universities is common, ranging from daily to 2-3 times a week, and is positively associated with academic performance.

These results further lend credence to the assertions of Okite-Amughoro et al. (2015) that in most educational institutions, e-Resources have become powerful teaching and learning tool for lecturers and students as the internet becomes a gateway to global information accessible allowing users to access huge amount content. The findings further corroborate with the findings of Banleman and Adjoa (2017) who noted that students' use of the library is statistically significant to student Grade Point Average

(GPA); access to electronic resources was the most beneficial resources students should have in order to attain excellent academic performance.

Table 4.17: Distribution of the Lecturers' Frequency of Use of the e- Resources

Type of Resource	Very often %	Often %	Occasionally %	Rarely %	Never %
Computer/Laptop	62.5	37.5	0.0	0.0	0.0
Peripherals	25.0	62.5	0.0	12.5	0.0
LMS	12.5	62.5	0.0	0.0	25.0
e- Library	0.0	50.0	25.0	0.0	25.0
e-Learning Materials	0.0	50.0	12.5	25.0	25.0
Digital Repository	0.0	12.5	25.0	12.5	50.0
Staff Email	37.5	25.0	12.5	12.5	12.5
Others	12.5	0.0	12.5	0.0	75.0

Table 4.17 above indicates an overwhelming reliance on computers/laptops among lecturers for e-Learning, with 100% reporting use, 62.5% split between and 37.5% using it frequently. This indicates universal adoption of digital tools for education, potentially indicating a robust e-Learning environment. The complete absence of low frequency usage underscores the critical role of technology in facilitating learning. This universal use can positively influence Kiswahili language academic achievement by providing consistent, technology-enhanced learning experiences.

The data reflects lecturers' use of peripherals in e-Learning, which shows a significant association with 87.5% using either frequently (62.5%) or very rarely (25%). However, a small fraction (12.5%) rarely uses peripherals, including occasional or never use. This high rate of use suggests that peripherals are important for lecturers in enhancing the e-Learning experience. Addressing underutilization can further optimize teaching

effectiveness, making more widespread use of technology can positively impact Kiswahili language academic achievement.

The data on lecturers' use of LMS indicate a mixed pattern: while the majority (75%) use it often (62.5%) or very often (12.5%), a significant 25% never use it. This indicates that while LMS is a key tool for many, there is a significant portion of lecturers who do not take advantage of this technology. Addressing this discrepancy is critical to enhancing the e-Learning environment, ensuring that all lecturers use LMS effectively to potentially improve Kiswahili language academic achievement. The data on lecturers' use of the e-Library shows a stark divide: half of the lecturers (50%) use it frequently, a quarter (25%) occasionally, and a quarter (25%) never uses it. This indicates significant underutilization of key educational resources. Increasing lecturers' engagement with e-Libraries can enrich e-Learning content and methods, potentially improve Kiswahili language academic achievement by providing wider access to relevant literature and resources for both teaching and research**.**

The data shows varying engagement with e-Learning materials among lecturers: half use (50%) them frequently, a small fraction (12.5%) occasionally, while a significant 50% rarely or never use them. These highlight potential gaps in integrating digital learning resources into education, which may affect the depth and variety of learning experiences offered to students. Addressing this gap and encouraging wider use of e-Learning materials can increase the quality of e-Learning, potentially improving Kiswahili language academic achievement. The data indicate significant underuse of Digital Repositories by lecturers, with 50% never using them, and only a small fraction (12.5%) using them frequently.

A quarter (25%) engages occasionally, while another 12.5% rarely do. This suggests a missed opportunity to take advantage of the extensive digital resources in education and research, which could enrich e-Learning content and methods. Increasing familiarity with and engagement with Digital Repositories can significantly improve educational outcomes, particularly in the Kiswahili language. The distribution of staff email usage by lecturers shows a relatively balanced spread in frequencies, with the highest using frequently (37.5%) and a significant proportion using it rarely (37.5%). A small fraction never uses staff email (12.5%). This suggests a moderate engagement with email as a communication tool in e-Learning contexts.

Increasing the use of staff email for more consistent communication may improve coordination and support in the e-Learning environment, potentially benefiting Kiswahili language academic achievement. The data on frequency use of 'other' e-Resources by lecturers in selected Kenyan Universities highlights varying engagement levels, with a significant majority (75%) likely relying heavily on "other" category resources, suggesting a broad and possibly non-traditional range of e-Resources used. Absence of use at some frequency levels (0%) indicates polarization in resource use, with some lecturers not using these resources or relying on them significantly.

This distribution suggests the need for a more tailored approach to e-Learning resources emphasizes the importance of understanding and integrating different e-Resources to potentially increase Kiswahili language learning achievement, indicates variability in digital resource adoption, and suggests potential gaps in e-Learning strategies. These findings are consistent with the assertions of Bhukuvhani (2012) found that increased use of electronic resources by lecturers positively affects their work, pedagogical practices, and research productivity. The findings also collaborate with the assertions

of Goian (2004) that instructional content can be gotten by instructor through e-Resources hence providing opportunities for teaching strategies. These findings are consistent with the assertions of Dolo-Ndlwana (2013) who posits students' and faculty staff usage and value of electronic resources and its usage was very common among the students; this assisted much in academic purposes especially academic achievement.

4.4.2.5 Frequency of the Use of e-Resources

The researcher sought to establish the frequency of use of e-Resources and the following are the responses of the Directors;

The first Director stated:

> *"The e-Resources available are used very frequently by both students and lecturers."* (DIR.1)

The second Director noted:

> "*The available e-Resources are used very frequently by our staff and students."* (DIR.2)

The third Director was in agreement with the other two by noting:

> *"Our resources in the University meant for e-Learning are used frequently by all ODeL stakeholders."* (DIR.3)

The qualitative findings of Directors ODeL above on the frequency of e-Resource use show a high level of engagement with e-Learning content, as indicated by first and second ODeL Directors who report "very frequent" use, and third Director who reports "frequent" use. This consistency in responses suggests strong adoption and integration of e-Resources into their educational strategies, highlighting the importance of digital content in enhancing Kiswahili language academic achievement. The implication of these data is there is need for robust e-Learning platforms and resources to support

language learning. Emphasis indicates a positive relationship between the use of e-Resources and the likelihood of improved academic outcomes.

That value also points to a consensus belief in leadership of e-Resources that lead to educational delivery and success. These findings are consistent with the assertions of Rakic et al. (2020) that optimizing access to e-Resources can enhance student outcomes by significantly relating their performance to the use of digital educational resources from the e-Learning platform. The findings further corroborate with the findings of Akussah, et al. (2015) who concluded that electronic resources had a significant positive relationship with the usage among the users in academic achievement.

Table 4.18: Distribution of Benefits of Using e-Resources

Benefit	**Number of students Who used them very often/often**	**Percentages (%)**
Easy to access	17	6.7
Easy to use	11	4.4
Interesting	14	5.5
Convenient	14	5.5
Saves time	11	4.4
One can learn from anywhere	10	4.0
No good reason	28	11.1

Table 4.18 suggests a variety of reasons why students use e-Learning materials, with the most commonly cited reason being "No good reason" (11.1%), indicating a lack of engagement or understanding of the value of the material. The reasons "Ease of use" and "Convenient" emphasize the importance of accessibility in e-Learning. For research on the relationship between e-Resources and academic achievement of Kiswahili learners, this suggests that although e-Learning tools are recognized for their

convenience and accessibility, there may be a need to increase their perceived value and importance to academic achievement. The findings also corroborate the findings of Dinev and Dineva (2020) who posited that e-Learning benefits students by providing a variety of online resources, increasing engagement and conscious perception of the learning material.

The findings are further consistent with findings of Okello and Magara (2008) who found that e-Resources are very beneficial to both instructor and students. This includes; accessibility of information through e-Library, they help curbing plagiarism, eases financial constraints, checks on reliability and quantity of information, help in data and file storage through cloud computing, help in easy submission of assignment through e-Mail and finally they help reduce overload of information.

Table 4.19: Distribution of Benefits of Using e-Resources to Lecturers

Benefit	Frequency	Percentage (%)
Students can also refer	1	12.5
Learners are able to retrieve materials even after the lesson is over	1	12.5
Integrated resource network	1	12.5
Ease of delivery	1	12.5
It makes teaching friendly	1	12.5
Improves learner retention, interacted resource network	2	25.0
Improves academic achievement	1	12.5
Total	**8**	**100**

Table 4.19 particularly in the context of Kiswahili language studies indicates a widespread appreciation for the benefits of e-Resources in enhancing teaching and learning. The most valued benefit, “Improves student retention, interacted resource

network" (25%), suggests that e-Resources are critical to engaging students and strengthening learning. Other highlighted benefits, such as ease of content retrieval, delivery, and overall enhancement of academic achievement (at 12.5% each), suggest that e-Resources play a key role in creating a more dynamic, accessible, and effective learning environment. This underlines the potential of e-Resources to significantly contribute to the academic success of Kiswahili language learners by providing diverse, interactive and learner-friendly tools. These findings corroborated the assertions of Borchardt and Weidauer (2013) who found that lecturers at Universities experience benefits such as reduced workload, improved teaching effectiveness, and increased productivity when using an e-Learning system for their teaching work.

4.4.2.6 Benefits of Using e-Resources to Directors

The researcher sought to establish the advantages of using e-Learning resources and the following are the responses of the Directors**;**

One of the Directors posited:

> *'From my own experience, use of resources saves time and they also enable easy accessibility hence enhancing the e-Learning process."* (DIR.1)

'The second Director affirmed*:*

> ***"****Use of e-Resources improves academic achievement in Kiswahili since they are readily available and greatly saves time."* (DIR.2)

The last Director applauded:

> ***"****Use of e-Resources ensures flexibility to the staff and students and it's cost effective.****"*** (DIR.3)

The qualitative data above from Directors on the benefits of using e-Resources highlight significant benefits such as time saving, easy accessibility, better academic achievement in Kiswahili, flexibility and cost-effectiveness. These observations

underscore the critical role that e-Resources play in enhancing the efficiency and effectiveness of educational processes and outcomes. The emphasis on improved academic achievement and achieved operational efficiency suggests that e-Resources are important not only in facilitating language learning but also in optimizing the educational ecosystem.

The implications of these data suggest that integrating e-Resources into learning environments can lead to more accessible, flexible and cost-effective learning solutions, potentially leading to better academic outcomes in Kiswahili language learning and beyond. These findings corroborate the assertions of Anyim (2021) who posited that electronic resources provide students with up-to-date information, complete information from different sources, speedy and easy access to information, and more for effective distance learning and continuing education. The findings are further consistent with findings of Dhawan (2020) whose study show that e-Learning has many benefits for students because this type of learning involves learner centeredness and it is more flexible.

Table 4.20: Distribution of Challenges of Using e-Resources to Students

Type of Challenge	**Number of students Who used them very often/often**	**Percentages (%)**
Weak network connection	15	6.0
Expensive data bundles	16	24.2
Unstable internet connection	14	5.6

Table 4.20 reveals significant challenges faced by students in accessing e-Learning materials, with "expensive bundles" (24.1%) being the most prominent issue, followed by issues related to internet connectivity ("poor network connection" and "unstable

internet"). This suggests that for Kiswahili language learners, the effectiveness of e-Resources in enhancing academic achievement is significantly hampered by structural barriers. Addressing these challenges is important to improve the accessibility and effectiveness of e-Learning tools in their educational functions. These results were consistent with the findings of a study conducted by Hadagali et al. (2012) and asserted that lack of personal computers and internet bandwidth are the main problems faced by users in accessing e-Resources in Universities.

These findings further corroborate the findings of a study conducted by Chisenga (2004) that although most libraries had internet connectivity, very few were offering web-based information services to the users. The study however, identifies four barriers to the effective provision of electronic resources in those libraries namely; lack of strategic planning, lack of adequate or reliable funding and lack of internet connectivity to provide information services to users and lack of consistent training for users in new ICT services. The findings are further consistent with findings of Dadzie (2007) who posited that some of the advantages of electronic resources as to access to information that might be restricted to the user due to geographical location or finances, access to more current information and provision of extensive links to additional resources related contend. The resources offer possible ways to mitigate costs and revolutionize ways to access information.

Table 4.21 indicates that lecturers face significant challenges in using e-Resources for Kiswahili language instruction, with "poor Internet connectivity" being the most prominent problem at 25%. This highlights the critical need for reliable Internet services to effectively support e-Learning. Other challenges such as "few content and internet breakdown", "unstable networks", and "not all available content is reliable" (at

12.5% each) point to the importance of both digital infrastructure and the quality of e-Resources. The mention of "poor attitude by teachers/lecturers" also indicates the need to foster a positive e-Learning culture. Addressing these challenges can significantly improve the effectiveness of e-Resources in enhancing the academic achievement of Kiswahili language learners.

Table 4.21: Distribution of Challenges of Using e- Resources to Lecturers

Type of Challenge	Frequency	Percentage (%)
Few materials and internet breakdown	1	12.5
Lack of enough time to prepare e-Learning resources	1	12.5
Unsteady networks	1	12.5
Not all materials available are reliable	1	12.5
Lack of internet sometimes	1	12.5
Poor internet connectivity	2	25.0
Poor attitude by learners/lecturers	1	12.5
Total	**8**	**100.0**

These findings corroborate the findings of Manda (2005) who posited that challenges of using electronic resources in universities include slow Internet connectivity, limited access to PCs, poor search skills, and power cuts. The findings are further consistent with the findings of Kariuki and Mwai (2019) who identified these challenges and emphasized the need for targeted interventions to address them, including investment in infrastructure and capacity building initiatives for teachers. These findings further corroborate the findings of Arkorful and Abaidoo (2014) who elaborate that one of the weaknesses of online learning is that it is perceived to lack interactivity compared to face-to-face learning or classroom learning. However, the strengths of online education include increased learning opportunities and flexibilities; accessibility to experts is easy, exposure to educational environments, variety of courses as well as joining students' communities.

4.4.2.7 Challenges of Using e-Resources to Directors

The researcher sought to establish the challenges of using e-Learning resources and the following are the responses of the Directors;

The first Director stated:

> **"***It really takes a lot of time to prepare course, fees policy which limits class attendance. The students are not allowed to log in in the LMS without clearing fees."* (DIR.1)

The second Director stated:

> *"Our main challenge in e-Learning is that it takes a lot of time to prepare course, many lecturers also have not embraced the change as they prefer conventional teaching."* (DIR.2)

The third Director commented:

> *"Poor internet connection and pressure on capacity building to both students and lecturers are the main challenges in our institution."* (DIR.3)

The qualitative data from ODeL Directors on the challenges of using e-Resources in selected Kenyan Universities reveals significant barriers, including extensive time required for course preparation, policies that may limit student attendance, lecturers' reluctance to embrace e-Learning over traditional methods, poor internet connectivity, and students and the need for significant capacity building for both lecturers. These observations show that while e-Resources have the potential to revolutionize educational outcomes, structural, attitudinal and policy-related challenges hinder their effective implementation. The implications of these data suggest a critical need for targeted interventions to overcome these barriers, such as improving Internet infrastructure, reforming fee policies, encouraging faculty adaptation to digital learning methods, and investing in comprehensive training programs.

These challenges need to be addressed to maximize the benefits of e-Learning in enhancing Kiswahili language academic achievement and broader educational goals. These findings lend credence to the findings of Mutisya et al. (2016) who posited that insufficient Internet connectivity, heavy workloads, limited ICT skills, lack of incentives, and inadequate computer laboratories are challenges affecting the adoption of e-Learning in public Universities in Kenya. The findings are further consistent with the findings of Randy (2011) who found that many institutions lack the necessary e-Learning equipment such as highly efficient devices and internet connections. Learners also lack skills in computer literacy and self-motivation.

Table 4.22: Students' Suggestion for Improvement to e--Resources

Suggestion	Frequency	Percentage (%)
Provide cheap data	11	4.4
Providing laptop/computer to students	13	5.2
Improve internet connectivity	11	4.4
Provide stable internet connectivity	26	10.3
Provide students with free internet	25	9.9
NI (Not Indicated)	35	13.9

Table 4.22 highlights a strong call for structural reforms to facilitate e-Learning, particularly for Kiswahili language learners. A good proportion of students did not specify their needs ("not indicated" at 13.9%), suggesting a potential gap in identifying or specifying specific e-Learning enhancements. The emphasis on providing stable Internet connectivity (10.3%) and free Internet access (9.9%) suggests that addressing Internet affordability and reliability can significantly improve access to e-Resources, potentially increasing the academic achievement of Kiswahili language students. This

underscores the importance of targeted interventions to address barriers to e-Learning access.

The findings are consistent with the assertions of Khawari et al. (2018) who suggested that Malaysian Universities should provide fast internet access, increase computer availability, and provide compulsory and long-term e-Resources training programs to increase usage among international students.

Table 4.23: Lecturers' Suggestions for Improvement to e-Resources

Suggestion	Frequency	Percentage (%)
Efficient internet services	1	12.5
Improving network	2	25.0
The Kiswahili language is not fully developed as a language of science and technology	1	12.5
Use of videos/YouTube channels	1	12.5
Improve network connectivity and upgrading the LMS	1	12.5
Frequency in the use of e-Resources	1	12.5
NI (Not Indicated)	1	12,5
Total	**8**	**100**

Table 4.23 shows that improving network connectivity is the top suggestion for increasing the use of e-Resources among lecturers with a frequency of 25%. This underscores the important role of reliable Internet services in facilitating effective e-Learning. Additionally, the need to develop Kiswahili as a medium of science and technology education presents a unique challenge in content creation and accessibility. Implementation of these reforms, such as more frequent use of e-Resources and taking advantage of video/YouTube channels, can significantly increase the academic achievement of Kiswahili language students by providing richer, more accessible learning materials and removing language barriers to scientific and technical education.

These findings lend credence to the assertions of Xu et al. (2019) that internet connection frequency features are positively correlated with academic performance, while traffic volume features are negatively associated.

4.4.3 Inferential Results on the Relationship between Use of e-Resources and Kiswahili Language Academic Achievement

To verify the possibility of relationship between use of e-Resources and Kiswahili language academic achievement, data was collected on ownership of e-Resources vs provided e-Resources by University (students, lecturers and Directors), available teaching and learning resources, management of ODeL resources, rate of adequacy of e-Resources, frequency of use (students, lecturers and Directors), benefits, challenges of e-Resources and suggestion for improvement. These results were further subjected to Pearson product Moment Correlation Test Analysis and Regression Analysis for hypothesis one testing to establissh the extent to e-Resources used in e-Learning related to Kiswahili language students' academic achievement. The results are as indicated in Table 4.24 and Table 4.25;

Table 4.24: Pearson Product Moment Correlation Test Analysis Showing Relationship between Use of e-Resources and Kiswahili Language students'Academic Achievement

Correlations			
		Use of e-Resources	**Academic achievement (Average grade)**
Use of e-Resources	Pearson Correlation	1	.237**
	Sig. (2-tailed)		.000
	N	252	252
Academic achievement (Average grade)	Pearson Correlation	.237**	1
	Sig. (2-tailed)	.000	
	N	252	252

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

The Pearson correlation coefficient was used to analyze the relationship between these variables with a significance level set at 0.01 (two-tailed). A Pearson correlation table 4.24 above indicates a positive, albeit weak, correlation (.237) between the use of e-Learning resources and academic achievement in Kiswahili with a statistically significant p-value (.000) based on 252 observations. This suggests a slight increase in academic achievement with increased use of e-Resources. A significant p-value indicates that the Null Hypothesis, **H_o1** was thus rejected indicating a significant relationship between the use of e-Resources and Kiswahili academic achievement, although the effect size is modest.

This finding suggests that students who use electronic resources more often tend to achieve higher average grades overall. This interpretation suggests that while the use of e-Resources positively affects academic achievement in general, its impact on Kiswahili proficiency as an explanation for these findings include; the relationship between the use of electronic resources and academic achievement may be influenced by various linguistic factors such as language background, cultural context, and pedagogical approaches. In the case of Kiswahili, the availability of high-quality

electronic resources tailored to support language learning objectives could contribute to improved academic performance.

The effectiveness of electronic resources in improving learning outcomes in Kiswahili may depend on their relevance and alignment with the language curriculum. Students' digital literacy skills and engagement with e-Learning platforms play a key role in determining the extent to which they will benefit from using e-Resources. Adequate training and support in the effective use of electronic resources can enable students to actively engage with digital materials and enhance their Kiswahili learning experience. The integration of electronic resources into the teaching of Kiswahili should be approached strategically, taking into account good pedagogical practices and learning objectives.

By seamlessly incorporating electronic resources into classroom activities, assignments, and assessments, educators can create a dynamic learning environment that supports language acquisition and academic success. In conclusion, while the effect hypothesis suggests no significant relationship between the use of e-Resources and academic achievement in Kiswahili, the findings of this study suggest otherwise. The positive correlation observed between these variables underscores the potential of electronic resources to improve Kiswahili proficiency and contribute to academic success. These findings corroborate the findings of a similar study conducted by Banleman and Adjoa (2017) noted that students of borrowing books, spending time in the library and accessing online resources indeed correlates significantly with their academic achievement.

The findings are further consistent with the findings of Cheng (2013) who asserted that the availability and adequacy of teaching and learning resources were much related to

and promote organization effectiveness in terms of academic achievement. These findings also lend credence to the assertions of Desarrollo (2008) who stated that academic achievement is dependent upon various factors which include the institutional leadership, teacher motivation, student attitude and availability of resources. These findings further corroborate the findings of Akussah, et al. (2015) who concluded that electronic resources had a significant positive relationship with the usage among the users in academic achievement.

Table 4.25: Regression Analysis on Use of e-Resources and Kiswahili Language Students' Academic Achievement

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.237[a]	0.056	0.53	254.049

a. Independent variable: (Constant), use of e-Resources

Regression analysis Table 4.25 shows a modest relationship (R = .237) between the use of e-Resources and Kiswahili language academic achievement, with the R square showing that only 5.6% of the variance in academic achievement can be explained by the use of e-Resources. This suggests a positive but limited effect. The R square value, while showing a significant relationship, could reject the null hypothesis that 'there is no significant relationship between e-Resources and Kiswahili language academic achievement', Regression analysis suggests a weak positive correlation between the use of e-Resources and academic achievement of Kiswahili learners as evidenced by a low R-squared value of 0.056. Although this suggests that the use of electronic resources explains only a small part of the variation in academic achievement in Kiswahili, the statistically significant relationship ($p < 0.05$) suggests that there is indeed a link between the two variables.

Thus, while electronic resources may have some impact on academic achievement in Kiswahili, other factors not accounted for in this analysis are likely to contribute more significantly to student achievement in this subject. Further research and exploration are warranted to better understand the implications of using electronic resources for Kiswahili language learning. Thus, Null Hypothesis, **H_o1** was rejected but it also highlights that other factors besides academic achievement may influence academic achievement. Use of e-Resources contributes significantly to academic achievement.

These results were consistent with the findings of a study conducted by Velnampy (2013) who found that e-Resources enhances learner's academic achievement and inconsistent with findings of William et al. (2012) who found that e-Resources does not affect learner's academic achievement. These findings also lend credence to the assertions of Dolo-Ndlwana (2013) who posited students' and faculty staff usage and value of electronic resources and its usage assisted much in academic purposes especially academic achievement. The findings were further consistent with the assertations of Okello-Obura and Magara (2008) who revealed that students derive a lot of benefits from electronic resources by gaining access to a wider range of information and improved academic achievement as a result of accessing quality information.

4.5 The Relationship between Adoption of e-Assessment and Kiswahili Language Students' Achievement

This section addresses the second objective of the study; to establish the relationship between Adoption of e-Assessment and the academic achievement of Kiswahili language students. The descriptive results provide a foundational understanding of the frequency, patterns, and characteristics of e-Assessment adoption among Kiswahili language students. The Inferential results delve into the statistical relationship between

e-Assessment and academic achievement, aiming to determine if there is a significant correlation between these variables. Statistical techniques; correlation analysis and regression analysis were employed to assess the strength and direction of the relationship. Thematic analysis findings offer a qualitative exploration of the underlying themes, experiences, and perceptions related to e-Assessment and academic achievement among Kiswahili language students.

4.5.1 Descriptive Results on the Relationship between Adoption of e-Assessment and Kiswahili Language Academic Achievement

Objective two of the study sought to establish the relationship between adoption of e-Assessment and Kiswahili language students' academic achievement in selected Universities in Kenya. Data was collected from the three Universities, organized, summarized and analyzed in form of percentages and frequencies and results are as indicated in Tables 4.26 to 4.34 shown below;

Table 4.26: Distribution of Adoption of e-Assessment by the Students

Mode of Assessment	Frequency	Percentage (%)
Online	62	24.6
Offline	17	6.7
Both offline and online	173	68.7
Total	**252**	**100**

Table 4.26 presents a significant preference for blended approaches, with 68.7% of students using both online and offline modes of assessment. Only 24.7% students are assessed online only, while at least 6.7% students undergo offline assessment. This distribution indicates a strong inclination towards integrating traditional and digital assessment methods, suggesting that students benefit from or prefer the flexibility and varied assessment strategies offered by combining both methods. The overwhelming preference for a mixed approach may mean that students recognize the unique

advantages of each mode to support their learning and academic achievement in Kiswahili.

It can also reflect Universities' strategies to cater to diverse learning preferences and technological accessibility, ensuring a comprehensive assessment that accurately measures students' understanding and expertise in subject matter. These findings lend credence to the findings of a study of Guo et al. (2017) who found that a comprehensive model of student participatory assessment based on process and growth can effectively assess students' ability and quality of acquiring and applying knowledge, improving their professional study. The findings are further consistent with the assertations of Algahtani (2011) who elaborated that there are two ways in which e-Assessment can be delivered. The first one is web-based delivery, where students access their assessment (online assessment) and the second one is down delivery where the e-Assessments are downloaded and done offline (offline assessment).

Table 4.27: Distribution of Adoption of Assessment modes by the Lecturers

Mode of Assessment	**Frequency**	**Percentage (%)**
Online	1	12.5
Both Offline and Online	7	87.5
Total	**8**	**100**

Table 4.27 on lecturers' adoption of assessment methods in research on e-Learning and Kiswahili language academic achievement in Kenyan Universities shows a strong preference for blended assessment strategies, with 87.5% of lecturers using both online and offline methods. Only 12.5% rely on online assessment only. This indicates recognition among lecturers of the benefits of combining traditional and digital assessment methods to provide a more comprehensive, flexible assessment experience. Such an approach is likely to support a variety of learning styles and needs, potentially

increasing student engagement and achievement in Kiswahili language learning. These findings lend credence to the findings of a study of Pesare et al. (2015) who found that digitally enhanced assessment in virtual learning environments can improve teaching and learning by providing easy-to-understand views of learning data.

The findings are further consistent with the assertations of Winkley (2010) who posit that the institution decides to use e-Assessment facilities that are already built in a learning management system such as Moodle or Blackboard. The researcher further argues that e-Assessment tasks have the potential to require students implement a deep approach in performing tasks.

4.5.2 Thematic Analysis of Qualitative Findings on Relationship between Adoption of e-Assessment and Kiswahili Language Students' Academic Achievement

4.5.2.1 Mode of Assessment by Directors

The researcher sought to establish mode of assessment used in ODeL centers and the following are the responses of the Directors;

One Director asserted:

> *"In our ODeL center we use online assessment only."* (DIR.1)

Another one stated:

> **"***In our ODeL center we use both offline and online assessment."* (DIR.2)

The third one affirmed**:**

> **"***In the ODeL center we use both offline and online assessment."* (DIR.3)

The qualitative data above from Directors' responses indicate varying degrees of adoption of assessment modes in their respective (ODeL) centers, with one Director opting for an exclusively online assessment approach and the remaining two using a

hybrid model that includes both online and offline assessment. This diversity in assessment strategies underscores the flexibility and adaptability of e-Learning environments to different pedagogical needs and preferences. These findings have significant implications for research on the relationship between e-Learning and Kiswahili language academic achievement in Kenyan Universities. It suggests that the effectiveness of e-Learning can be influenced by the choice of evaluation method, potentially affecting student engagement, learning outcomes and the overall success of e-Learning programs in terms of Kiswahili language learning.

These insights can guide future e-Learning strategies to optimize Kiswahili academic achievement through tailored assessment practices. These findings further corroborate the findings of a study conducted by Quan-Baffour (2011) and found that multiple assessment modes in distance teacher training programs can provide a more inclusive and holistic view of student competencies, promoting openness in discourse and assessment practices. The findings are further consistent with the findings of Pesare et al. (2015) who argued that digitally enhanced assessment in virtual learning environments can improve teaching and learning by providing easy-to-understand views of learning data.

Table 4.28 on students' frequency of use of e-Assessment, particularly class assignments, shows a high level of engagement, with 81.3% using it often or very often. This suggests a strong integration of e-Assessments into the learning process. However, a small proportion of students use it occasionally (13.9%) or rarely (4.0%) and very few (0.8%) never use it. The widespread use of e-Assessments indicates their acceptance and potential effectiveness in enhancing learning outcomes, including in Kiswahili language studies. This may mean that incorporating e-Assessments into the curriculum

can significantly support academic achievement by providing a regular, accessible means to assess student progress and understanding.

Table 4.28: Distribution of the Students' Frequency of Use of e-Assessment

Assessment Method	Very often %	Often %	Occasionally %	Rarely %	Never %
Class Assignment	48.8	32.5	13.9	4.0	0.8
Homework	23.4	17.5	17.5	29.0	1.6
CATs	40.9	34.1	19.9	3.2	1.6
Research /Seminar Paper	12.7	19.4	32.9	25.4	9.5
End of Semester Examination	33.7	27.8	16.7	9.9	11.9
Project	9.5	14.3	12.7	24.2	39.3
Others	2.8	5.2	2.0	2.0	98.1

The data on students' use of e-Assessment for homework shows varied engagement levels, with a notable 40.9% using it often or very often. However, a significant 29% rarely use it, and a small fraction (1.6%) never does. This diversity suggests that while homework is an integral part of e-Learning, its effectiveness may be inconsistent. Enhancing engagement and addressing barriers could improve learning outcomes, including in Kiswahili studies**.** The data shows high levels of student engagement with e-Assessment, particularly CATs (Continuous Assessment Tests), with 75% using it frequently or very often.

However, a small segment used it occasionally (19.9%), and a minimal percentage used it rarely (3.2%) or never (1.6%). This suggests that CATs are a critical component of e-Learning, potentially positively influencing Kiswahili language academic achievement. Addressing the reasons behind low engagement can increase the

effectiveness of e-Assessment in supporting student learning outcomes. The distribution of student engagement with e-Assessment for research/seminar papers shows considerable variation, with only a small proportion (12.7%) using it very often and a slightly higher percentage (19.4%) very often.

Most students use it occasionally (32.9%) or rarely (25.4%), and a significant minority (9.5%) never use it. This suggests challenges in engagement or accessibility with this form of e-Assessment, potentially affecting depth of learning and academic achievement in Kiswahili studies. Increasing support and resources for research and seminar paper assignments can improve student outcomes**.** The data on the frequency of students' use of e-Assessment for end of semester examinations shows the majority (61.5%) involved frequently or very often, indicating significant reliance on this assessment format.

However, 16.7% use it occasionally and a significant portion of students rarely (9.9%) or never (11.9%) use it. This variation suggests that while end-of-semester exams are the main assessment tool, there are disparities in student engagement. Addressing these disparities can help increase the effectiveness of e-Assessment, potentially increasing academic achievement in Kiswahili language learning**.** The data on the frequency of use of e-Assessment for projects among students shows a relevant trend: a significant 39.3% never use it, and 24.2% rarely do, indicating significant underuse.

Only a small proportion of students used the project often (14.3%) or very often (9.5%), with some using it occasionally (12.7%). This suggests challenges in effectively integrating project-based e-Assessments, potentially limiting the opportunity for applied learning and affecting Kiswahili language academic achievement. Addressing this gap can enhance experiential learning and improve outcomes. The data further

shows that there is a striking relaxation among students with the "Other" category of e-Assessment, with 98.1% never using it.

Only a small fraction engaged in these assessments occasionally (2.0%), rarely (2.0%), often (5.2%), or very often (2.8%). This suggests significant underuse or irrelevance of this category in current e-Learning frameworks. Addressing the nature and accessibility of these uncertain e-Assessments may reveal untapped potential to enhance learning experiences and academic achievement in Kiswahili studies. These findings were consistent with the findings of a study conducted by Crisp (2002) who reviewed various assessment methods in social work education, examining their effectiveness and potential issues.

These findings further corroborate the findings of a study conducted by Hettiarachch et al. (2015) who found that the e-Assessment tool with a formative assessment model positively impacts student performance and learning by providing personalized feedback, guidance, and marking, while automatically tracking progress and competences. The findings are further consistent with the assertions of Mimirinis (2018) who found that academic teachers perceive e-Assessment as efficient management of the assessment process, facilitating dialogue and student engagement, enhancing student learning, and developing digital identity and community.

Table 4.29 on lecturers' frequency of use of e-Assessment for preparing assessment tools shows a similar and high level of engagement, with 50% using it occasionally and 25% every time and often. This indicates a strong involvement in the development of assessment tools, an active engagement in their learning process. The absence of "rarely" and "never" responses highlights the universal acceptance and use of these

tools among students. This active participation can promote deeper understanding and improve academic achievement in Kiswahili language learning.

Table 4.29: Distribution of the Lecturers' Frequency of Use of e-Assessment

Assessment Activity	Very Often %	Often %	Occasionally %	Rarely %	Never %
Preparation of assessment tools	25.0	25.0	50.0	0.0	0.0
Giving class assignments	12.5	62.5	0.0	25.0	0.0
Giving homework to students	12.5	62.5	0.0	0.0	25.0
Administering Continuous Assessment Tests (CAT)	12.5	37.5	0.0	37.5	12.5
Administration of end of Semester examinations	25.0	0.0	0.0	0.0	75.0
Preparation of examination results	62.5	0.0	0.0	12.5	25.0
Giving students' feedback based on tests/examination results	62.5	0.0	0.0	12.5	25.0
Others	0.0	0.0	0.0	0.0	100

The data on lecturers' frequency of use of e-Assessment for giving class assignments shows significant reliance on this method, with 62.5% using it often and 12.5% very often. However, a significant 25% rarely use it, and there are no incidences of "sometimes" or "never". This suggests that class assignments are a key component of e-Learning but also shows a gap in continued usage among some lecturers. Addressing this inconsistency can enhance the e-Learning experience and potentially improve Kiswahili language academic achievement by ensuring that all students benefit from regular, structured assignments**.**

The data on the use of e-Assessment by lecturers to assign homework to students shows a significant trend: 62.5% often use e-Assessment methods, while 12.5% do so very often, indicating a strong inclination towards incorporating digital tools into homework

assignments. However, there is a significant gap, with 25% of people never using these methods. This disparity highlights an opportunity to encourage more uniform adoption of e-Assessments for homework, which can increase student engagement and potentially improve Kiswahili language academic achievement through relevant and interactive e-Learning practices. The data on lecturers' use of e-Assessment to administer Continuous Assessment Tests (CAT) show a varied pattern, with 50% using it often (37.5%) or very rarely (12.5%).

However, similar proportions of lecturers rarely use CATs (37.5%) or never use them (12.5%), indicating significant variation in adoption. This mixed use suggests opportunities to enhance the integration of CAT into e-Learning frameworks. Doing so may provide more relevant feedback and learning opportunities for students, potentially improving academic outcomes in Kiswahili language studies. The data shows stark contrasts in the administration of end-of-semester examinations by lecturers, with 25% using e-Assessment methods frequently and a significant 75% never using them.

This shows a large disparity in the adoption of digital tools for final assessment, indicating reliance on traditional examination methods by the majority. Increasing the use of e-Assessments for end-of-semester examinations could standardize assessment practices and potentially improve the assessment of academic achievement in Kiswahili language studies. The data on the use of e-Assessment by lecturers for preparation of examination results shows a major use, with 62.5% doing so often, indicating a strong preference for using digital tools in this aspect of assessment. However, there is a significant section, with 12.5% rarely using these methods and 25% never using them, indicating a discrepancy in technology adoption for results processing. Addressing this

gap could lead to more efficient and transparent results compilation, potentially enhancing the educational assessment process in Kiswahili language studies.

The data shows that 62.5% of lecturers often use e-Assessment to provide feedback to students based on test/exam results, highlighting the significant reliance on digital platforms for this critical aspect of education. However, there is significant disparity, with 25% never using these methods and 12.5% rarely doing so. This suggests that while many lecturers effectively leverage e-Assessment for feedback, a significant number do not potentially affect students' teaching effectiveness and academic achievement in Kiswahili language study. Increasing the uniform use of e-Assessment for feedback can improve educational outcomes.

The data shows a complete absence of use for the "other" category of e-Assessment by lecturers, with 100% never using it. This suggests a significant difference or lack of relevance among these uncertain e-Assessment tools within the current educational framework. It highlights the potential opportunity for research and integration of different e-Assessment methods that can enrich the e-Learning experience. Addressing this can enhance teaching strategies and improve Kiswahili language academic achievement by leveraging a wider range of digital resources.

These findings were consistent with the findings of a study of Mimirinis (2018) who found that academic teachers understand e-Assessment as a means of efficiently managing and streamlining the assessment process, facilitating dialogue and student engagement, enhancing student learning, and developing digital identity and community. These findings further corroborate the findings of a study conducted by Yalman, and Gonen (2016) who found that the importance of electronic assessment or

tests in terms of faculty members is that it can acquire rapid results and make education better.

4.5.2.2 Directors' Frequency of Use of e-Assessment

The researcher sought to establish Directors' frequency use of e-Assessment and the following are the responses of the Directors;

A Director noted:

> *"Only one CAT is administered online per semester here in our institution."* (DIR.1)

Another Director said*:*

> *"Online assessment is frequently done as per guideline of the center."* (DIR.2)

The third Director stated*:*

> *"2 out of 3 assessments are done online in the University."* (DIR.3)

The qualitative findings reveal different approaches to the use of e-Assessment among Directors. The first Director suggests a minimal approach in which only one CAT is administered online per semester, suggesting careful integration of e-Assessment. Second Director's strategy closely aligned with organizational guidelines, suggesting a structured but potentially more frequent use of online assessments. The third Director shows a high rate of adoption, with two-thirds of assessments conducted online.

This variation reflects different levels of engagement with digital tools for assessment, highlighting an opportunity to standardize and increase the use of e-Assessment across the board. Such standardization can improve consistency in e-Learning experiences and potentially positively impact Kiswahili language academic achievement by providing more regular and accessible assessment opportunities. These findings were consistent with the findings of a study conducted by Brink and Lautenbach (2011).

The findings are also consistent with assertions of Morris (2008) who posited that e-Assessments have benefits whether used for summative or formative purposes. They include: ability of many students to be assessed within a given time, immediate feedback for the student and lecturer, ability to repeat and randomize tests, they are time saving and finally students are given opportunities for their own learning.

Table 4.30: Benefits of e-Assessment to Lecturers

Advantage	Frequency	Percentage (%)
There is no physical contact	1	12.5
Easy access to students	1	12.5
Class activities proceed on uninterrupted	1	12.5
Ensures continuity when physical teaching is not tenable	1	12.5
Assist in covering the coursework within stipulated time	1	12.5
Easy monitoring of e-Learners	1	12.5
The instructor is able to monitor students' involvement in learning	1	12.5
Timely feedback	1	12.5
Total	**8**	**100**

Table 4.30 highlights the perceived benefits of e-Assessment by lecturers, particularly emphasizing its role in maintaining academic continuity for Kiswahili language students. Each benefit, which has an equivalent value of 12.5%, indicates that e-Assessment facilitates uninterrupted class activities, timely feedback and easy monitoring of student engagement, even when physical learning is not possible. This suggests that e-Assessment is crucial to ensure that the course is completed within the stipulated time, offering a seamless transition between physical and digital learning environments. These advantages are particularly significant for Kiswahili language

education, as they support sustained academic achievement by enabling flexible, accessible and efficient teaching and learning methods.

These results lend credence to the assertions by Mimirinis (2018) who found that academic teachers perceive e-Assessment as efficient management of the assessment process, facilitating dialogue and student engagement, enhancing student learning, and developing digital identity and community. The findings are consistent with the assertions of Yalman, and Gonen (2016) who have shown the importance of electronic assessment or tests in terms of faculty members that it can acquire rapid results and make education better.

4.6.2.3 Benefits of e-Assessment to Directors

The researcher sought to establish the benefits of e-Assessment and the following are the responses of the Directors;

A Director noted:

> "*The system marks and grades which is extremely convenient."* (DIR.1)

Another Director acknowledged*:*

> *"It saves time, back-ups are assured and immediate feedback is always guaranteed.*" (DIR.2)

The third Director stated:

> *"It is cost-effective and evaluation is always prompt."* (DIR.3)

The qualitative findings highlight the perceived benefits of e-Assessment from the Directors' perspective, emphasizing efficiency, convenience and effectiveness. The first Director values the system's ability to automatically mark and grade, while the second Director appreciates the time-saving aspect, reliable backups, and provision of immediate feedback. The third Director notes the cost-effectiveness and readiness of the assessment. These benefits collectively suggest that e-Assessment enhances the

teaching and learning process by streamlining assessment processes, ensuring timely feedback and reducing operational costs.

This improved efficiency and immediacy is likely to positively impact the learning experience and academic achievement in Kiswahili language studies by providing students with quick insights into their performance and areas for improvement. These results lend credence to the assertions of Hettiarachch et al. (2015) who found that the e-Assessment tool with a formative assessment model positively impacts student performance and learning by providing personalized feedback, guidance, and marking, while automatically tracking progress and competences. The findings are consistent with the findings of Morris (2008) who posited that e-Assessments have benefits whether used for summative or formative purposes. They include: ability of many students to be assessed within a given time, immediate feedback for the student and lecturer, ability to repeat and randomize tests, they are time saving and finally students are given opportunities for their own learning.

Table 4.31: Challenges of e-Assessment to Lecturers

Disadvantage	**Frequency**	**Percentage (%)**
Lack of honesty; the lecturer cannot verify	1	12.5
Few students are able to login because it is tied to fees payment	5	62.5
Unreliable network and lack of IT skills	2	25
Total	**8**	**100**

Table 4.31 reveals significant challenges in the implementation of e-Assessment, particularly “few students are able to login because it is linked to payment of fees” as the most critical problem, affecting 62.5% of respondents. This suggests that financial barriers significantly hinder access to e-Assessment for Kiswahili language students,

potentially affecting their academic achievement. In addition, "lack of reliable network and IT skills" (25%) indicated technical and skills-related barriers. For the effective use of e-Resources to enhance the academic performance of Kiswahili language learners, it is important to address these challenges to emphasize the need for equal access and support in digital literacy.

These findings further corroborate the findings of a study conducted by Khlifi and El-Sabagh (2017) and found that the main challenge facing the security of e-Assessment and the e-Learning environment is how to authenticate students, as unauthorized persons can access and manage information. The findings are further consistent with findings of Gathuri et al. (2014) who posited that impersonation challenges in online examinations are a major concern, and a Profile-Based Authentication Framework (PBAF) can help make e-Assessment more secure in terms of the authentication process.

4.5.2.4 Challenges of e-Assessment to Directors

The researcher sought to establish the challenges of e-Assessment and the following are the responses of the Directors;

A Director noted:

> *"Too much time is needed to prepare assessment and fees policy has been a hindrance to the use of e-Assessment."* (DIR.1)

Another Director confirmed*:*

> *"Students may copy paste answers, poor internet connectivity, and lecturers' fear of change as some of the main challenges."* (DIR.2)

The third Director asserted:

> *"Some lecturers resist change, authenticating students is extremely hard, some lecturers not well trained."* (DIR.3)

The qualitative findings reveal significant challenges in implementing e-Assessment, as identified by Directors. The Director highlights the time and financial implications, which indicate operational difficulties. The second Director points to issues of academic integrity, connectivity issues and resistance to technology adoption among lecturers. The third Director echoes the resistance to change, emphasizing the difficulty in standardizing student work and noting the lack of training for some lecturers.

These challenges indicate that while e-Assessment offers numerous benefits, its effective implementation is hindered by technical, cultural and logistical barriers. Addressing these issues is important to increase the effectiveness of e-Learning and improve the academic achievement of Kiswahili language in Kenyan Universities. These findings corroborate the findings of a study conducted by Gathuri et al. (2014) and found that impersonation challenges in online examinations are a major concern, and a Profile-Based Authentication Framework (PBAF) can help make e-Assessment more secure in terms of the authentication process.

Table 4.32: Suggestions for Improvement of e-Assessment to Lecturers

Suggestion	Frequency	Percentage (%)
Giving research questions only	1	12.5
More Training to staff for IT skills	2	25
Improve network coverage	1	12.5
University to restructure the fees policy for all students to access e-Assessment	3	37.5
NI (Not Indicated)	1	12.5
Total	**8**	**100**

Table 4.32 suggests that to improve the use of e-Assessment and increase the academic achievement of Kiswahili language students, the most critical measure (37.5%) is for Universities to restructure fee policies to ensure that all students have access to e-

Assessment. Additionally, more training for staff in IT skills (25%) is considered essential to overcome technical barriers. This suggests recognition of the need for both organizational policy change and skills development to maximize the benefits of e-Resources in education, highlighting the way forward to effectively address financial and technical challenges in e-Learning environments. These findings are also consistent with the findings of a study conducted of Nehme (2010) who found that e-Learning can improve learning if lecturers consider students' motivation and use elements like fee policy and training of lecturers to foster motivation.

4.5.2.5 Suggestions for Improvement to e-Assessment by Directors

The researcher sought to establish the way forward to challenges of e-Assessment and the following are the responses of the Directors;

A Director advised:

> "*The University Management to invest in proper tools to curb cheating & create awareness on the advantages of using e-Assessment*." (DIR.1)

The Director recommends investment in anti-cheating tools and promotes the benefits of e-Assessment to promote positive attitudes towards its use.

Another Director proposed:

> "*University to organize for regular refresher training to the lecturers.*" (DIR.2)

The third Director suggested:

> *"Ensuring that students and lecturers are trained frequently on the use of e-Assessment."* (DIR.3)

Both second and third Directors emphasize the importance of regular training for lecturers, with the third Director extending this to include students, highlighting the need for extensive familiarity with e-Assessment tools. These suggestions propose a proactive approach to focus on removing barriers, enhancing technical capabilities and

fostering an adaptive culture towards e-Assessment among stakeholders. The qualitative findings indicate consensus among Directors on addressing e-Assessment challenges through organizational support and continuing education. Implementing these strategies can significantly improve the effectiveness of e-Learning and positively impact academic achievement in Kiswahili language learning. These findings are consistent with the findings of a study conducted by Guàrdia (2020) who found that training students and lecturers frequently on the use of e-Assessment can enhance student learning in usniversities.

4.5.2.6 Availability of Assessment Tools and Staff

The researcher sought to establish the availability of assessment tools and staff and the following are the responses of the Directors;

A Director confirmed:

> *"LMS is available and all lecturers both full-time and part-time are well trained."* (DIR.1)

Another Director noted:

> *"Facilities for e-Assessment are available and staff has been well trained in our institution."* (DIR.2)

The third Director also confirmed:

> "*Facilities for e-Assessment are available in the University and lecturers are trained frequently*." (DIR.3)

The qualitative data above suggests a robust infrastructure for e-Assessment across the board, with all Directors confirming the availability of LMS or facilities for e-Assessment, as well as extensive training for both full-time and part-time lecturers. The third Director emphasizes ongoing training, indicating a commitment to keep lecturers updated with the latest e-Assessment tools and practices. This suggests a strong

foundation for the widespread availability and implementation of training e-Assessment, which can significantly enhance the e-Learning experience.

Such robust e-Assessment environments are likely to contribute positively to academic achievement, including in Kiswahili language studies, by providing consistent, accessible and effective means of assessment and feedback. These results lend credence to the assertions of Kiryakova (2021) who found that e-Assessment in Learning Management Systems like Moodle offers new, innovative approaches for evaluating various aspects and levels of knowledge, skills, and competencies, enhancing the learning process.

4.5.3 Inferential Results on the Relationship between Adoption of e-Assessment and Kiswahili Language students 'Academic Achievement

To verify the possibility of relationship between use of e-Assessment and Kiswahili language academic achievement, data was collected on adoption of e-Assessment by students, lecturers and OdeL Directors, frequency of use by both students, lecturers and Directors, benefit of use, challenges of use and suggestions for improvement. These results were further subjected to Pearson product Moment Correlation Test Analysis and Regression Analysis for hypothesis two testing to establish the extent to which use of e-Assessment relate to Kiswahili language students' academic achievement.

The observation from the Pearson correlation data in the Table 4.33, with a significance level (Sig. 2-tailed) of 0.167, suggests that the null hypothesis ('there is no significant relationship between e-Assessment and Kiswahili language students' academic achievement') cannot be rejected. Kiswahili language studies among the sampled students. The correlation analysis revealed a Pearson Moment Correlation Coefficient of 0.087 between the utilization of e-Assessment and students' academic achievement.

However, this correlation was not statistically significant at the 0.05 level (two-tailed), as indicated by the p-value of 0.167. Additionally, the correlation coefficient for academic achievement (0.087) was also not statistically significant. The results were as indicated in Tables 4.33 and 4.34;

Table 4.33: Pearson Product Moment Correlation Test Analysis Showing Relationship between Use of e-Assessment and Kiswahili Language Students' Academic Achievement

Correlations			
		Use of e-Assessment	Academic achievement
Use of e-Assessment	Pearson Correlation	1	0.087**
	Sig. (2-tailed)		.167
	N	251	251
Academic achievement	Pearson Correlation	0.087**	1
	Sig. (2-tailed)		.167
	N	252	252

Contrary to the null hypothesis that there is no significant relationship between the use of e-Assessment and students' academic performance, the correlation analysis suggests a strong positive correlation between these variables. However, this correlation did not reach statistical significance, suggesting that while there is a trend toward higher academic achievement among students who use e-Assessment methods; this relationship is not strong enough to be considered significant. Therefore, the null hypothesis, **H_o2** was accepted. The lack of statistical significance can be attributed to the characteristics of the sample population.

Differences in students' academic backgrounds, learning styles, and attitudes toward e-Assessment influenced academic achievement. Evaluation of electronic assessment use and academic outcomes may be subject to measurement error, which affected the accuracy and reliability of the results. The way the students engaged with e-Assessment

and inconsistencies in assessment procedures could contribute to discrepancies in the data. Other factors such as instructional quality, student motivation, and external support services may confound the relationship between e-Assessment use and academic achievement.

These variables could interact or independently influence student performance, complicating the interpretation of the observed correlation. The sample size of 252 students may have limited the statistical power of the analysis and potentially obscured true relationships between e-Assessment use and academic outcomes. A larger sample size could provide more reliable estimates of the relationship and increase the likelihood of detecting significant effects. In conclusion, it can be said that although the hypothesis of the absence of a significant relationship between the use of e-Assessment and students' academic results was not supported by statistical analysis, the observed correlation did not reach statistical significance. This suggests that while there may be a positive trend toward higher academic achievement among students who use e-Assessment methods, more research is needed to establish a conclusive relationship.

These results are inconsistent with the findings of a study conducted by Alz'ubi (2015) that electronic exams are statistically significant on the academic achievement. These results lend credence to the assertions of Harris and Al-Bataineh (2015) who studied the impact of electronic assessments and found that the tool can be of significant interest for students and teachers in improving academic achievement among institutions. These findings are inconsistent with the findings of Hettiarachch et al. (2015) who asserted that the e-Assessment tool with a formative assessment model positively impacts student performance and learning by providing personalized feedback, guidance, and marking, while automatically tracking progress and competences.

Table 4.34: Regression Analysis on Use of e-Assessment and Kiswahili Language Students' Academic Achievement

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.087[a]	.008	.004	261.002

a. Predictors: (Constant), e-Assessment

Regression analysis table 4.34 shows a very low R value (0.087), indicating a weak linear relationship between e-Assessment usage and academic achievement in Kiswahili. The R square value of 0.008 indicates that only 0.8% of the variance in Kiswahili academic achievement can be explained by the use of e-Assessment. Regression analysis shows a non-significant positive relationship between adoption of e-Assessment and academic achievement of Kiswahili language students, indicated by a very low R-squared value of 0.008. Given that such a minimal proportion of the variance in Kiswahili language academic achievement is explained by e-Assessment adoption, the results fail to support a significant relationship between these variables.

This implies that while e-Assessment may have some effect, it is not a strong predictor of academic success in Kiswahili language learning among University students in Kenya. Therefore, the null hypothesis, which suggests that there is no relationship between the adoption of e-Assessment and Kiswahili language academic achievement, cannot be rejected based on this analysis. Hence, the Null Hypothesis, **H_o2** was accepted. These findings suggest that factors other than the use of e-Assessment play a more significant role in determining student performance in Kiswahili language learning.

Studies may need to consider additional factors that may significantly affect academic achievement. These results were consistent with the findings of a study of Guàrdia et

al. (2020) who found that e-Assessment in Universities has not yet been fully explored and its potential to enhance student learning is not yet clear there. These results lend credence to the assertions of Brink and Lautenbach (2011) who stated that electronic assessment in universities has not statistically influenced academic achievement in the University of Johannesburg. These findings are inconsistent with the findings of Appiah and Tonder (2018) who stated that e-Assessment has a great potential to support and even improve student learning.

Credible e-Assessment will enhance students' learning since it encourages them to be sincere about their own learning approach. The findings are also inconsistent with findings of Hettiarachch et al. (2015) who asserted that the e-Assessment tool with a formative assessment model positively impacts student performance and learning by providing personalized feedback, guidance, and marking, while automatically tracking progress and competences.

4.6 The Relationship between Utilization of Learning Management System (LMS) and Kiswahili Language Students' Academic Achievement.

This section addresses the third objective of the study; to assess the relationship between utilization of LMS and the academic achievement of Kiswahili language students. The descriptive results provide a foundational understanding of the frequency, patterns, and characteristics of utilization of LMS among Kiswahili language students. The Inferential results delve into the statistical relationship between Utilization of LMS and academic achievement, aiming to determine if there is a significant correlation between these variables. Statistical techniques; correlation analysis and regression analysis were employed to assess the strength and direction of the relationship. Thematic analysis findings offer a qualitative exploration of the underlying themes,

experiences, and perceptions related to utilization of LMS and academic achievement among Kiswahili language students.

4.6.1 Descriptive Results on the Relationship between Utilization of Learning Management System (LMS) and Kiswahili Language students'Academic Achievement

Objective three of the study sought to assess the relationship between utilization of LMS and Kiswahili language students' academic achievement in selected Universities in Kenya. Data was collected from the three Universities, organized, summarized and analyzed in form of percentages and frequencies and results are as indicated in Tables 4.35 to 4.44 below.

Table 4.35: Distribution of Students' Utilization of Learning Management System (LMS)

Learning Activity	Very Often %	Often %	Occasionally %	Rarely %	Never %
Registering for the Kiswahili Courses/units	58.7	30.6	6.3	1.2	3.2
Accessing e-Learning materials (Course outlines, modules etc.)	44.4	40.9	9.5	2.0	3.2
Attending e-Lectures	24.6	28.6	23.8	5.6	17.5
Engaging in e-Learning Activities (chats, discussions, forums etc.)	19.0	28.6	24.2	18.3	9.9
Doing Assignment	34.1	35.3	16.3	6.3	7.9
Uploading Assignment	21.8	32.1	24.6	9.5	11.9
Accessing academic records	34.5	32.1	16.7	3.6	13.1
Communicating with Lecturers/students/University Administration	17.9	15.5	20.2	30.6	15.9
Others	4.0	2.4	2.4	0.8	90.5

Table 4.35 shows that 58.7% of students frequently use LMS to register for Kiswahili courses/units, while 30.6% do so frequently, indicating high engagement. Only a small percentage rarely (1.2%) or never (3.2%) use LMS for this purpose. This suggests an

important role of LMS in facilitating accessible and flexible Kiswahili language learning, potentially increasing academic achievement in Kenyan Universities by supporting diverse student needs and learning styles. The data shows that 44.4% of sstudents frequently access e-Learning materials (course outlines, modules, etc.) through LMS, while 40.9% do so frequently, indicating a high usage rate. A small fraction rarely (2.0%) or never (3.2%) use an LMS to access content. This highlights the key role of LMS in providing resources for Kiswahili language study, suggesting a positive impact on academic achievement through enhanced accessibility and teaching support in Kenyan Universities.

The distribution shows a mixed engagement with e-Lectures: 24.6% of students attend very often, and 28.6% often, indicating a moderate level of participation. However, a significant 17.5% never attend, indicating barriers to participation or alternative learning choices. This variability may affect the effectiveness of e-Learning in increasing Kiswahili language academic achievement. It emphasizes the need to address accessibility and engagement challenges to maximize the benefits of e-Learning in Kenyan Universities.

The data show a wide spread in student engagement with e-Learning activities such as chats, discussions, and forums: 19.0% engage often and 28.6% frequently, indicating a moderate level of interaction. However, 9.9% never participate, indicating a gap in active involvement. This distribution suggests different levels of digital engagement among students, potentially affecting Kiswahili language academic achievement. It suggests the need for strategies to increase participation in e-Learning activities to enhance learning outcomes in Kenyan Universities.

The data shows that 34.1% of students frequently assign assignments through LMS, with 35.3% engaging frequently, indicating significant use of LMS for assignments. However, 7.9% never use an LMS for this purpose, indicating some barriers to technology use or alternative choices. This pattern suggests that while LMS is a key tool for facilitating assignments in Kiswahili language courses, adopting it and addressing the challenges may further improve academic achievement in Kenyan Universities. The data indicates that 21.8% of students use the LMS often to upload assignments, while 32.1% do so frequently, indicating a good level of engagement with LMS functionality. However, 11.9% never use an LMS for this purpose, highlighting a significant portion of students disengaged from this aspect of e-Learning.

This suggests that LMS is an important tool for submitting assignments in Kiswahili courses, addressing the reasons behind the lack of use by some students could increase participation in Kenyan Universities and potentially improve Kiswahili academic outcomes. The data show that 34.5% of students very frequently access their academic records through the LMS, and 32.1% do so frequently, indicating that most students use the LMS for this purpose. However, 13.1% never access records, pointing to potential problems with accessibility or engagement. This suggests that while LMS is important for academic supervision, increasing its usability and addressing disengagement can improve student performance and engagement in Kiswahili studies in Kenyan Universities.

The data show that 17.9% of students use LMS very often and 15.5% frequently for communication with lecturers, students or University administration, indicating moderate use. However, 30.6% rarely and 15.9% never use it for this purpose, highlighting a significant communication gap. The potential positive impact of

Kiswahili language on academic achievement in Kenyan Universities suggests the need to enhance LMS facilities and encourage its use for communication to improve academic support and engagement. The data shows a striking trend with 90.5% of students never using the LMS for activities in the "other" category, indicating very low engagement for unspecified LMS features or functions.

This indicates either a lack of awareness or the relevance of these additional facilities to the needs of students. Increasing awareness and relevance of all LMS functionalities can potentially improve engagement and support broader educational outcomes in Kiswahili studies in Kenyan Universities. The findings corroborate the findings of Alnomay et al. (2012) that blended Learning Management Systems enhance the administration, documentation, tracking, and reporting of training programs, e-Learning programs, and training content, resulting in improved learning outcomes. The findings are consistent with assertion of Azmi, Zeehan, Fahad and Hisham (2012) who stated that LMS is an essential tool for University students because it helps them to keep up with the course work, get instant notification regarding exams, quizzes and daily assignments.

LMS is also known to register users, track courses and records data from learners. It also provides reports to the institutional managers. These results lend credence to the assertions of Martinez & Jagannathan (2012) who stated that LMS represents one of the most popular approaches for planning, delivering and managing learning in educational institution. The findings are further consistent with findings of Paulsen (2002) who defined Learning Management Systems as a system which provides online education services for students, teachers and managers. The researcher further argued

that it is a system which organizes and provides access to online learning services for teachers, students and administrators.

Table 4.36: Distribution of Lecturers' Utilization of Learning Management System (LMS)

Teaching Activity	Very Often %	Often %	Occasionally %	Rarely %	Never %
Preparation of teaching/learning materials (Course outlines, modules etc.)	37.5	25	12.5	25	0
Uploading learning materials (Modules, links to e-Books, Journals, Digital Repositories)	25	37.5	12.5	25	0
Organizing e-Learning activities	25	50	0	12.5	12.5
Registering students for the Course	37.5	12.5	0	12.5	37.5
Delivering content during Lessons	25	37.5	12.5	25	0
Facilitating e-Learning activities (Chats, discussions, forums	25	25	25	25	25
Assessing learners (give class Assignments, homework, CATs)	12.5	37.5	12.5	25	12.5
Giving students' feedback based on assessments results	12.5	37.5	12.5	25	12.5
Maintaining students' academic Records	37.5	12.5	12.5	25	12.5
Others	0	0	0	0	100

Table 4.36 indicates that 37.5% of lecturers frequently use LMS to prepare teaching/learning materials, while 25% do so frequently, indicating a significant association. However, 25% rarely use an LMS for this purpose, and none have ever used it. This suggests a positive but varied adoption among lecturers, highlighting the potential of LMS, if usage inconsistencies are addressed, to potentially improve Kiswahili language academic achievement in Kenyan Universities. The data shows that

25% of lecturers frequently upload learning materials to LMS, 37.5% do so frequently, indicating that most are using LMS for resource delivery.

However, 25% rarely use it for this purpose, with none reporting ever using it. This demonstrates a commitment to integrating digital resources into education, suggesting an opportunity to further enhance e-Learning effectiveness in Kiswahili academic achievement by encouraging more consistent use among lecturers in Kenyan Universities. The data indicates that 25% of lecturers frequently organize e-Learning activities, and 50% do so frequently, indicating a strong commitment to fostering an interactive online learning environment. However, 12.5% rarely engage in this activity and another 12.5% never.

This suggests that while e-Learning practices are being significantly adopted, there is room for improvement in universal application, potentially increasing Kiswahili language academic achievement in Kenyan Universities. The data shows polarized use of LMS for student enrollment for courses, with 37.5% of lecturers using it frequently and a similar percentage never using it. Only 12.5% use it frequently, indicating a significant discrepancy in adoption rates. This suggests that while some lecturers used the LMS effectively for administrative tasks, a significant number did not. This potentially affected course management efficiency and student engagement in Kiswahili language studies in Kenyan Universities. The data shows that 25% of lecturers frequently deliver content via LMS during lessons, 37.5% do so frequently, indicating that the majority use LMS to enhance learning.

However, 25% rarely use an LMS for content delivery, none ever. This suggests room for wider use of Kiswahili in Kenyan Universities to potentially improve academic achievement, highlighting the strong but universal acceptance of LMS for lesson

delivery. The data indicate an even distribution across all frequencies of use by lecturers to facilitate e-Learning activities (chats, discussions, forums) with each category – very often, often, sometimes, rarely and never – receiving 25%. This suggests different approaches to the integration of interactive e-Learning tools among lecturers. It highlights the opportunity for more consistent engagement in interactive learning activities to potentially increase academic achievement of Kiswahili in Kenyan Universities. This data shows a varied approach to using LMS to assess learners, with 37.5% of lecturers using it frequently for class assignments, homework and CATs, although there is considerable spread in other frequencies 12.5% very often, 12.5% Sometimes, 25% rarely, and 12.5% never.

This suggests a moderate but inconsistent use of LMS for assessment purposes, implying the need for increased and more uniform integration to potentially increase academic achievement in Kiswahili language studies in Kenyan Universities. The data show that 37.5% of lecturers frequently use the LMS to provide feedback to students based on assessment results, with similar proportions (12.5%) often, sometimes, rarely, and never using it for this purpose.

The data indicate that 37.5% of lecturers frequently use the LMS to maintain students' academic records, with significant variation in lower frequencies 12.5% often, 12.5% sometimes, 25% rarely, and 12.5% never. This reflects the rudimentary yet inconsistent adoption of LMS for record-keeping. Streamlining LMS use for this purpose can increase organizational efficiency and academic tracking, which can positively impact Kiswahili language academic achievement in Kenyan Universities. The data shows that 100% of lecturers never use the LMS for activities categorized under "Other", indicating a complete lack of engagement with certain features or functionalities of the

LMS outside of commonly recognized functions such as content delivery, assessment and feedback. This highlights the potential underutilization of LMS capabilities, suggesting an opportunity to explore and integrate these additional features to enhance the e-Learning experience and improve Kiswahili language academic achievement in Kenyan Universities.

These findings lend credence to the findings of a study conducted by Bradley (2020) and found that LMS use in online instruction allows instructors to facilitate discussions, plan activities, set learning expectations, and assist in problem-solving, creating an engaging learning environment. These findings are further consistent with assertions of Bacow, Bowen, Guthrie, Lack and Long (2012) that LMS provides a variety of functions and communication tools that support teaching and learning such as assignments, announcements, quizzes, discussion forum, resources, chat among themselves. These results lend credence to the assertions of Aldiab, Kootsookos, Chowdhury and Allam (2019) who stated that there is an increasing strong trend toward utilizing LMS in most Universities as a part of their educational management system in order to improve the teaching and learning process. These findings are further consistent with assertions of Holmes and Prieto-Rodriquez (2018) who stated that LMS gathers all the students in one virtual place enhancing their interaction, feedback and discussions.

4.6.2 Thematic Analysis of Qualitative Findings on Relationship between Utilization of Learning Management System (LMS) and Kiswahili Language Students' Academic Achievement

4.6.2.1 Availability of LMS

The researcher sought to establish the availability LMS in ODeL centers and the following are the responses of the Directors;

One Director confirmed:

> *"LMS is available in our University.*" (DIR.1)

Another Director agreed:

> *"The University has LMS the Moodle type."* (DIR.2)

The third Director noted:

> "*LMS (Moodle type) as well as web conferencing are available in our institution."* (DIR.3)

The qualitative findings above indicate that all Directors confirm the availability of LMS with specific mention of Moodle and web conferencing tools. This indicates a strong foundation for e-Learning infrastructure in these Universities. The availability of such resources is critical to facilitating e-Learning and can enhance Kiswahili language academic achievement by providing an accessible, flexible learning environment. It underscores the importance of a robust e-Learning platform to support academic programs in Kenyan Universities. These findings lend credence to the findings of a study conducted by Simanullang and Rajagukguk (2020) who found that Moodle is a popular LMS application suitable for online learning, supporting various student activities like videos, discussion forums, chat, materials, and quizzes. These findings are further consistent to the assertations of Aldiab, Kootsookos, Chowdhury and Allam (2019) state that there is an increasing strong trend toward utilizing LMS in most Universities as a part of their educational management system in order to improve the teaching and learning process.

4.6.2.2 Availability of Skilled Staff

The researcher sought to establish the availability of skilled staff in the ODeL centers and the following are the responses of the Directors;

A Director confirmed:

> *"We have a support and teaching staff well trained in the ODeL center."* (DIR.1)

Another one applauded*:*

> *"Our ODeL center has Skilled staff."* (DIR.2)

The third Director confirmed,

> "*The University has taken initiative of training of the lecturers and staff*" (DIR.3)

The qualitative data above show a unanimous recognition of the availability of skilled staff for LMS use across Universities, with clear mention of initiatives for well-trained support, teaching staff and ongoing training. This demonstrates a commitment to enhancing e-Learning capabilities, which are critical to the effective delivery of Kiswahili language courses. It suggests that a skilled workforce is the key to leveraging e-Learning technology, potentially improving academic achievement and the quality of teaching in Kenyan Universities. These findings are also consistent with the assertions of Oliveira et al. (2015) that Universities have trained staff to operate LMS for e-Learning management.

4.6.2.3 Management of Programmes in LMS

The researcher sought to establish the management of programmes in LMS and the following are the responses of the Directors;

One Director said:

> "*The University's ODeL center uses LMS to register students but it's not used to receive applications nor maintain records."* (DIR.1)

Another one confirmed:

> *"The University's ODeL center uses LMS to register students but it's not used to receive applications nor maintain."* (DIR.2)

The third Director was in agreement with the two:

> *"The University's ODeL center uses LMS to register students but not to receive applications nor maintain records."* (DIR.3)

The qualitative data above show consistent use of LMS for student enrollment across Universities but a notable lack of use for receiving applications or maintaining academic records. This indicates a gap in leveraging the full potential of LMS functions, suggesting an opportunity for expansion in LMS management capabilities. Enhancing LMS to include application processing and record maintenance can streamline administrative tasks and improve organizational efficiency, potentially enriching the e-Learning experience and supporting academic achievement in Kiswahili studies in Kenyan Universities. These findings are also consistent with the assertions of Kasim and Khalid (2016) that LMS are used for registering students in e-Learning and improving their learning experience. These findings lend credence to the findings of Bacow, Bowen, Guthrie, Lack and Long (2012) who explained that LMS provides a variety of functions and communication tools that support teaching and learning such as assignments, announcements, quizzes, discussion forum, resources, chat among us. These tools used either synchronous or asynchronous not only enrich the teaching and learning process but also facilitate communication as well as collaboration among learners and instructors.

4.6.2.4 Content Management in LMS

The researcher sought to establish the content management in LMS and the following are the responses of the Directors;

A Director noted:

> *"The LMS is used to prepare, upload contents, modules and learning materials by lecturers.*" (DIR.1)

The second one confirmed:

> "*The LMS is used to prepare, upload contents, modules and learning materials by lecturers"* (DIR.2)

and the third one was in agreement with his counterparts:

> '*The LMS is used to prepare, upload contents, modules and learning materials by lecturers.'* (DIR.3)

The qualitative data above consistently highlighted that all Directors reported use of LMS by lecturers to prepare and upload content, modules and learning materials. This uniformity underscores the critical role of LMS in content management by enabling efficient dissemination of educational resources. The implication is clear: effective use of LMS for content management is critical to enhancing the delivery of Kiswahili language courses, ensuring that students have access to high-quality, structured learning materials in Kenyan Universities. These findings are also consistent with the assertions of Adzharuddin (2013) that LMS is used by lecturers to prepare and upload content, modules, and learning materials, connecting students and lecturers without traditional classroom confines.

These findings lend credence to the findings of Azmi, Zeehan, Fahad and Hisham (2012) who stated that LMS is an essential tool for University students because it helps them to keep up with the course work, get instant notification regarding exams, quizzes and daily assignments. LMS is also known to register users, track courses and records data from learners. It also provides reports to the institutional managers.

4.6.2.5 Content Delivery in LMS

The researcher sought to establish the content delivery in utilization of LMS and the following are the responses of the Directors;

One of the Directors posited:

> *"Lecturers are trained on how to make notes, upload content, chats, and organize, discussions, e-Learning activities."* (DIR.1)

Another Director said:

> *"Content delivery involving lectures chats, discussions and e-Learning activities done by the lecturers."* (DIR.2)

The third one confirmed:

> *"Content delivery involving e-Lectures, chats, discussions and e-Learning activities done."* (DIR.3)

Qualitative data reveal a comprehensive approach to content delivery through LMS, with instructors highlighting training for lecturers on creating and uploading notes and content and organizing chats, discussions and e-Learning activities. This suggests a proactive approach towards empowering lecturers with the skills required for effective e-Learning delivery. The implication is that such structured and interactive content delivery methods can significantly enhance the learning experience and academic achievement in Kiswahili language studies in Kenyan Universities, fostering a more engaging and effective e-Learning environment. These findings lend credence to the assertions of Adzharuddin (2013) that LMS helps connect students and lecturers without traditional classroom confines, managing user learning interventions and delivering learning content and resources to students.

The findings are further consistent with findings of Bacow, Bowen, Guthrie, Lack and Long (2012) who explained that LMS provides a variety of functions and

communication tools that support teaching and learning such as assignments, announcements, quizzes, discussion forum, resources, chat among themselves. These tools used either synchronous or asynchronous not only enrich the teaching and learning process but also facilitate communication as well as collaboration among learners and instructors

4.6.2.6 Students' Interaction with the LMS

The researcher sought to establish the Students' interaction with the LMS and the following are the responses of the Directors;

All the Directors shared the same response:

> "*Students use LMS to access, download learning materials, and upload assignments or CATs.*" (DIR.1)

The qualitative data above similarly indicate that students actively engage with the LMS to access and download learning materials and upload assignments or (CATs). This constant interaction indicates a high level of student engagement and reliance on the LMS for their learning needs. The implication is that the LMS serves as an important tool to facilitate the educational process, potentially increase Kiswahili language academic achievement by making learning resources readily available in Kenyan Universities and streamlining the submission process. These findings lend credence to the assertions of Cantabella et al. (2019) that students use LMS to access, download learning materials, and upload assignments or CATs.

The findings are consistent with the findings of Alghand and Bayanga (2016) who described LMS as an online portal providing space for classroom resources, tools and activities which can be shared easily around students and instructors. They further argue that LMS are utilized for teaching and learning practices, assist in tracking students'

activities in manageable manner, and allows collaboration and students' involvement as well as interaction

4.6.2.7 Assessment in Utilization of LMS

The researcher sought to find out use of assessment in the utilization of LMS and the following are the responses of the Directors;

One of the Directors said:

> *"Students use LMS for online assessment and uploading assignments given by their lecturers."* (DIR.1)

Another one noted:

> *"Students are expected use LMS for online assessment and uploading assignments.*" (DIR.2)

The third one confirmed:

> "*Students are expected use LMS for assessment and uploading CATs."* (DIR.3)

The qualitative data consistently show that students are expected to use the LMS to upload online assessments and assignments to the board, indicating a standardized approach to assessing student performance and course delivery. This uniform expectation underscores the importance of the LMS as a central tool for assessment purposes, which means that its effective use is critical to streamlining the assessment process, increasing the efficiency of academic assessment and potentially improving Kiswahili language academic achievement in Kenyan Universities by ensuring timeliness and organized feedback. These findings are consistent with assertion of Aldiab, Kootsookos, Chowdhury and Allam (2019) that most of the Universities use LMS beside their traditional classrooms. In this platform a student is an able to review lectures, answer exams, submit assignment, receive feedback and discuss the same with peers. These findings lend credence to the assertions of Dhawan (2020) that online

learning is said to be learner-centered; it is more flexible and it is said to improve interaction with students by provision of asynchronous and synchronous tools such as email, charts, videoconferences and forums.

4.6.2.8 Use of LMS as a Communication Tool

The researcher sought to establish whether LMS is used a communication tool and the following are the responses of the Directors;

A Director asserted:

> ***"****There is a chat/discussion forum where teacher-student discussion or student -student interaction is expected.****"*** (DIR.1)

Another Director confirmed:

> *"LMS is used as a communication tool by students, lecturers, University management.*" (DIR.2)

Third Director confirmed:

> ***"****LMS is used as a communication tool by students, lecturers, University management."* (DIR.3)

The qualitative data above show that LMSs are actively used as communication tools across Universities, with features such as chat/discussion forums for teacher-student and student-to-student interactions. This indicates recognition of the importance of communication in an e-Learning environment. The implications are significant; by facilitating real-time interaction and collaboration, LMS enhances the learning experience, potentially improving Kiswahili language academic achievement. It underscores the role of effective communication in supporting a comprehensive and engaging academic environment in Kenyan Universities. These findings lend credence to the assertions of Lee & Kim (2015) that LMS effectively increases learners' interactions in e-Learning by enhancing target consciousness, communication, and resource sharing.

Table 4.37: Benefits of Students' Utilization of Learning Management System (LMS)

Benefit	Frequency	Percentage (%)
Easy to use	18	7.1
You can access it anywhere	11	4.4
It is more effective during learning	12	4.8
Convenient to access	17	6.7
I can learn at any time	19	7.5
Easy to access learning materials	11	4.4
NI (Not Indicated)	39	15.5

Table 4.37 suggests that students value the convenience and accessibility of LMS, highlighting their effectiveness in facilitating learning anytime, anywhere. The most valued benefits include the ability to learn anytime (7.5%), ease of use (7.1%) and convenient access (6.7%). However, a significant 15.5% of responses were not reported, suggesting areas for further investigation. This implies a positive correlation between LMS use and academic achievement, highlighting the importance of user-friendly and accessible learning technologies in enhancing students' learning experiences. These findings are consistent with the assertions of Kasim and Khalid (2016) that LMSs improve students' learning experience and construct their understanding of certain topics, considering factors like flexibility, ease of use, accessibility, and user-friendliness benefits.

Table 4.38 highlights various benefits of LMS for lecturers, with significant appreciation (25%) for centralization of learning content. Advantages include efficiently reaching large student groups, conducting classes remotely, receiving instant feedback, and facilitating alternative learning methods. The ease of teaching specialized subjects such as Kiswahili and the availability of e-Learning materials are also noted. These benefits suggest that LMS use can increase learning efficiency and effectiveness, possibly improving student academic achievement by providing a more structured, accessible, and engaging learning environment. These findings are also consistent with

the assertions of Rahrouhet al. (2018) that instructors in Universities find LMS-Moodle effective, reliable, usable, maintainable, and efficient for delivering online courses.

Table 4.38: Benefits of Lecturers' Utilization of Learning Management System (LMS)

Benefit	Frequency	Percentage (%)
Can reach large groups of students without shouting	1	12.5
Can contact classes at home without going to campus	1	12.5
Instant feedback	1	12.5
It is an alternative in teaching	1	12.5
It makes the teaching of Kiswahili easy	1	12.5
e-Learning materials are available for all	1	12.5
Centralization of all learning materials for the course	2	25
Total	**8**	**100**

4.6.2.9 Benefits of ODeL Directors' Utilization of LMS

The researcher sought to establish the benefits of utilization of LMS and the following are the responses of the Directors;

One of the Directors said:

> **"***It is tim*e *saving, easy to use, and manage."* (DIR.1)

Another one applauded:

> **"***It saves time, handles many students, it is open -customized for the University."* (DIR.2)

The third Director noted:

> *"It is cost-effective, tracks students' interactions with lecturers."* (DIR.1)

The qualitative data above showed that Directors perceived LMS use as time-saving, easy to manage, able to handle many students, customizable, cost-effective, and able to track interactions. These benefits indicate that an LMS significantly increases the efficiency and scalability of an e-Learning environment. Kiswahili language academic achievement means significant; by streamlining administrative tasks and fostering interactions, LMS can contribute to a better learning experience, potentially increasing student engagement and success rates in Kenyan Universities. These findings are also consistent with the assertions of Kasim and Khalid (2016) that LMS for Universities, highlighting their flexibility, ease of use, accessibility, and user-friendliness, to help users make informed decisions for their institutions needs their findings.

Table 4.39: Challenges to Students' Utilization of Learning Management System (LMS)

Challenge	Frequency	Percentage (%)
Not accessible without fees payment	17	6.7
Limited access to the internet	8	3.2
Unstable internet network	21	8.3
Expensive data bundles	31	12.3
Poor internet connectivity	25	9.9
System breaking down	6	2.4

Table 4.39 indicates significant challenges faced by students using LMS, primarily related to Internet access and affordability. Primary issues include poor internet connectivity (11.5%), expensive data bundles (12.3%), fees payment policy challenge (6.7%) and system reliability concerns (2.4%).

These barriers can negatively impact students' academic achievement by limiting opportunities for learning resources and engagement. This emphasizes the need to address issues of the digital divide to ensure equitable access to educational technology

and enhance educational outcomes. These findings are consistent with the assertions of Susanto and Susanto (2023) who highlighted challenges faced by students in using LMS in hybrid classes include lack of enthusiasm, intermittent connectivity issues, tight deadlines, and difficulties in comprehending instructional content.

Table 4.40: Challenges to Lecturers' Utilization of Learning Management System (LMS)

Challenge	Frequency	Percentage (%)
Lack of accessibility due to internet	1	12.5
Serves a few students who are able to pay fees in time to be allowed access	1	12.5
Network interruptions	1	12.5
Some students opt not to attend	1	12.5
Few materials / books written in Kiswahili	1	12.5
failure to upgrade by the administration	1	12.5
Not all lecturers are willing to embrace it	1	12.5
Poor network connectivity	1	12.5
Total	**8**	**100**

Table 4.40 on the challenges of LMS use by lecturers' points to significant challenges, particularly internet accessibility issues and network interruptions, each cited by 12.5% of respondents. Additionally, limitations due to fee requirements, student attendance, and availability of materials in some languages such as Kiswahili, system upgrades and lecturer adoption rates highlight multifaceted constraints.

These shortcomings suggest that while LMSs have the potential to enhance student academic achievement, it is important to overcome technical, financial, and behavioral barriers to realizing their full benefits in educational settings. Addressing these issues is essential to ensuring equitable access and engagement in digital learning environments. These findings corroborate the findings of a study conducted by Gani

and Berg (2019) that lecturers reported challenges in using LMSs for teaching and learning, including poor internet access, lack of skills, fear, and workload.

4.6.2.10 Directors' Challenges to Utilization of LMS

The researcher sought to establish the challenges of utilization of LMS and the following are the responses of the Directors;

A Director noted:

> "*It is capital intensive (expensive) to buy software, laptops, computers, whiteboards."* (DIR.1)

Another one confirmed:

> *"It is expensive, fees policy blocks out many students, poor internet connectivity."* (DIR.2)

The third one noted*:*

> *"LMS has not been upgraded or customized."* (DIR.3)

The qualitative data above identified significant challenges in using LMSs, including high costs for software and equipment, fee policies that limit student access, poor Internet connectivity and outdated or non-customized systems. These challenges suggest that while LMS has potential benefits for e-Learning, its effectiveness in increasing Kiswahili language academic achievement in Kenyan Universities is hampered by financial, technological and infrastructural constraints. Addressing these issues is critical to maximizing the educational benefits of LMSs and ensuring equitable access to quality e-Learning experiences. These findings corroborate the findings of a study conducted by Oliveira et al. (2015) that Internet connection is a challenge in the use of LMS in e-Learning, highlighting gaps and guidelines for future research.

Table 4.41: Students' Suggestions for Improvement in the Utilization of Learning Management System (LMS)

Suggestion	Frequency	Percentages (%)
Providing stable internet	31	12.3
Make it accessible even without paying fees	7	2.8
Provision of free internet	11	4.4
Provision of computers/laptops	17	6.7
Helping needy students with fees payment	6	2.4

Table 4.41 on suggestions for improving students' use of LMS emphasizes the important role of consistent and equal Internet access in enhancing academic achievement. Top recommendations included stable Internet (12.3%), making LMS accessible without a fee (2.8%) and providing free Internet access (4.4%). Additionally, providing computers or laptops (6.7%) and assisting needy students with fee payment (2.4%) were highlighted. Addressing these suggestions can significantly reduce barriers to effective LMS use, potentially leading to improved educational outcomes and narrowing the digital divide. These findings corroborate the findings of a study conducted by Coates (2005) found that LMSs have the potential to enhance student engagement and enhance campus-based education by enhancing collaboration, communication, and access to learning materials.

Table 4.42 on suggestions for improving LMS usage by lecturers emphasized the critical need for improved Internet access and infrastructure, with each recommendation receiving equal weight (12.5%). Major proposals include providing internet access in student residential areas, separating LMS access from fee payment to ensure universal accessibility, addressing infrastructural underdevelopment, improving network coverage, regularly upgrading the LMS system and increasing the frequency

of staff training. Implementing these improvements can significantly increase the effectiveness of LMSs in education, potentially leading to higher student academic achievement by ensuring more equitable, efficient, and engaging learning experiences. These findings were consistent with the assertions of Chow et al. (2018) that Lecturers who attended LMS training workshops had higher LMS activity levels and used more 'grade center' and 'assessment tool' tools in their teaching compared to untrained teachers.

Table 4.42: Lecturers' Suggestions for Improvement in the Utilization of Learning Management System (LMS)

Suggestion	Frequency	Percentage (%)
Availing internet in the area's students live	1	12.5
Delink it from fee payment restructuring fees policy for every learner to access LMS	1	12.5
Infrastructural development	1	12.5
Improve on network coverage	1	12.5
Upgrading the LMS system regularly	1	12.5
Increase frequency of training staff	2	25
Total	**8**	**100**

4.6.2.11 Suggestions for Improvement on Directors' Utilization of LMS

The researcher sought to establish the way forward to the challenges in utilization of LMS and the following are the responses of the Directors;

One Director suggested:

> **"***University to invest on staff and students' training, updating infrastructure and ensure ODeL courses accreditation."* (DIR.1)

Another Director advised:

> **"***University to invest more on internet connectivity and on improving LMS."* (DIR.2)

The third one suggested:

> **"***University to invest more on upgrading, customization and plugins, and more training on the staff."* (DIR.3)

The qualitative data above indicate consensus among Directors on addressing LMS challenges by investing in training for staff and students, infrastructure upgrades, increasing Internet connectivity, ensuring course validity, and improving LMS functionality through upgrades, customizations, and plugins. This show awareness that these factors play an important role in overcoming barriers to e-Learning.

Implementing these strategies can significantly increase the effectiveness of LMS, potentially improving Kiswahili language academic achievement in Kenyan Universities by creating a more accessible, engaging and efficient learning environment. These findings were consistent with the assertions of Cabral et al. (2012) that Faculty training is crucial in the adoption of learning management systems in Universities, as faculties who attend three or more workshops develop higher technical and pedagogical proficiency in LMS.

4.6.3 Inferential Results on the Relationship between Use of Learning Management System (LMS) and Kiswahili Language Students' Academic Achievement

To verify the possibility of relationship between use of LMS and Kiswahili language academic achievement, data was collected on utilization of LMS by students, lecturers and Directors, frequency of use by both students, lecturers and Directors, benefit of use, challenges of use and suggestions for improvement. These results were further subjected to Pearson product Moment Correlation Test Analysis and Regression Analysis for hypothesis three testing to establish the extent to which use of LMS relate

to Kiswahili language students' academic achievement. The results were as indicated in Table 4.43 and 4.44;

Table 4.43: Pearson Product Moment Correlation Test Analysis Showing Relationship between Use of Learning Management System (LMS) and Kiswahili Language Students' Academic Achievement

Correlations			
		LMS	Academic Achievement
Learning Management Systems	Pearson Correlation	1	.129**
	Sig. (2-tailed)		.040
	N	252	252
Academic Achievement	Pearson Correlation	.129**	1
	Sig. (2-tailed)	.040	
	N	252	252

*Correlation is significant at the 0.05 level (2-tailed).

Pearson Moment Correlation analysis Table 4.43 shows a positive correlation (.129) with a significance level of .040 between LMS and academic achievement of Kiswahili language students. The correlational analysis provided examines the relationship between the use of LMS and academic achievement in Kiswahili. The correlation coefficient (Pearson's r) for the relationship between LMS use and academic achievement in Kiswahili is 0.129. This value indicates a positive correlation, which means that as the use of LMS increases, so does academic achievement in Kiswahili.

However, the strength of this correlation is relatively weak. This suggests that there is a statistically significant, albeit slight, relationship between LMS use and improved academic performance in Kiswahili. The significance level (Sig.) associated with this correlation is 0.040. This value indicates the probability of observing a correlation coefficient if there were in fact no relationship between LMS use and academic achievement in Kiswahili (i.e. the null hypothesis was true).

A significance level of 0.05 is commonly used as the threshold for determining statistical significance. In this case, the significance level is slightly below 0.05, indicating that the correlation is statistically significant. Consequently, the null hypothesis that there is no significant relationship between the use of LMS and academic achievement of Kiswahili learners is rejected. The null hypothesis, **H_o3** was therefore rejected. Rejecting the null hypothesis means that there is evidence to suggest that there is indeed a significant relationship between the two variables.

However, it is important to note that although the correlation is statistically significant, the strength of the correlation is relatively weak (0.129). This suggests that while there is a discernible pattern suggesting that increased LMS use is associated with higher academic achievement in Kiswahili, other factors are likely to also play a significant role in determining academic performance in the subject. This finding suggests that the LMS has a positive effect on students' learning in Kiswahili, although the effect size is modest, suggesting room for further investigation and potential improvement of LMS integration strategies. Implications of these findings in the context of education and the use of technology-enhanced learning tools such as learning management systems may include; the findings provide empirical support for the integration of LMS into educational practices, particularly in the teaching of Kiswahili.

Educators and policy makers can take this evidence into account when making decisions about investing in LMS platforms and implementing them in educational institutions. The positive correlation suggests that the use of technology such as LMS can potentially improve students' achievement in Kiswahili. This finding may encourage educators to explore innovative ways to incorporate technology into language teaching to improve student proficiency and academic achievement.

Although the correlation is statistically significant, the relatively weak strength of the correlation suggests that there may be other influential factors influencing learning outcomes in Kiswahili.

Future research could delve deeper into identifying these factors and understanding their interactions with LMS use to provide greater insight into effective language learning strategies. Educators can use these findings to inform their teaching practice by strategically incorporating LMS tools and resources into Kiswahili curriculum design. This may include creating interactive online assignments, providing supplemental learning materials, or facilitating collaborative learning activities through LMS platform. It is essential to consider the potential justice impacts associated with using LMS. Access to technology and digital resources may vary among students, which may influence the observed relationship between LMS use and academic achievement.

Educators and policymakers must address these disparities to ensure equitable access to technology-enabled learning opportunities for all students. These results are consistent with the findings of a study conducted by Oguguoet al. (2021) whose findings found that LMS affect learner's academic achievement. These findings lend credence to the assertions of Ahmed et al. (2019) who found that use of LMS has a positive impact on students' academic achievement. The findings are further consistent with findings of Mohammed (2021) who stated that use of LMS has a significant relationship with academic achievement.

Table 4.44: Regression Analysis on Use of Learning Management System (LMS) and Kiswahili Language Students' Academic Achievement

Model Summary				
Model	R	R Square	Adjusted R square	Std. Error of the Estimated
1	.129	.017	.013	259.339

a. Predictors: (Constant), Learning Management System

Regression analysis Table 4.44 indicates a low R value (.129), suggesting a weak relationship between LMS use and academic achievement of Kiswahili language students. The R square value (.017) shows that only 1.7% of the variance in academic achievement can be explained by LMS usage. Regression analysis shows a weak positive relationship between LMS adoption and academic performance of Kiswahili students as evidenced by a low R-squared value of 0.017. Because this value is relatively small, it suggests that LMS use explains only a small portion of the variance in academic achievement in Kiswahili.

Consequently, the results do not provide strong evidence to reject the null hypothesis that there is no significant relationship between LMS adoption and academic achievement in Kiswahili. These findings suggest that while the LMS may have little effect on academic performance, other untested factors have a more significant effect on student achievement in Kiswahili learning. Further investigation is needed to comprehensively examine these factors. Despite this, the model suggests a statistically significant, albeit small, effect. Therefore, the null hypothesis "There is no significant relationship between the use of LMS and academic achievement of Kiswahili students" is technically rejected, so the null hypothesis, **H_o3** was rejected, but the practical significance seems to be limited.

This means that while LMS use affects academic performance, the effect size is minimal, suggesting that other factors may play a more significant role in influencing Kiswahili academic performance. These results are consistent with the findings of a study conducted by Ahmed and Mesonovich (2019) that use of LMS has a positive impact on students' academic achievement. These findings lend credence to the assertions of Firman et al. (2021) who posited that LMS in e-Learning, such as Moodle, builds an interactive learning process between teachers and students, improving academic achievement. The findings are also consistent with the findings of Oguguo et al. (2021) who stated that Learning Management system affect learner's academic achievement.

4.7 The Relationship between Provision of e-Learning Support Services and Kiswahili Language Students' Academic Achievement

This section addresses the fourth objective of the study; to determine the relationship between provision of e-Learning support Services and the academic achievement of Kiswahili language students. The descriptive results provide a foundational understanding of the frequency, patterns, and characteristics of provision of e-Learning support services among Kiswahili language students. The Inferential results delve into the statistical relationship between provision of e-Learning support services and academic achievement, aiming to determine if there is a significant correlation between these variables. Statistical techniques; correlation analysis and regression analysis were employed to assess the strength and direction of the relationship. Thematic analysis findings offer a qualitative exploration of the underlying themes, experiences, and perceptions related to provision of e-Learning support services and academic achievement among Kiswahili language students.

4.7.1 Descriptive Results on the Relationship between e-Learning Support Services and Kiswahili Language Students' Academic Achievement

Objective four sought to determine the relationship between the provision of e-Learning support services and Kiswahili language students' academic achievement in selected Universities in Kenya. Data was collected from the three Universities, organized, summarized and analyzed in form of percentages and frequencies and results are as shown in tables 4.45 to 4.46 below;

Table 4.45 Distribution of the Extent to which Students Agreed with Provision of e–Learning Support Services

Statement	SA (%)	A%	U%	D%	SD%
Students are oriented to undertake online learning	57.9	35.7	3.2	3.2	0
Students were taken through mechanism of attending online lessons	47.6	36.1	8.3	4.4	3.6
Students are shown how to engage in e-Learning activities	39.7	43.3	9.1	2.8	5.2
Students are shown how to upload their work (CATs, class assignments)	33.7	34.9	19.8	7.9	9
Students are shown how to do on-line tests/assignments	30.1	35.3	18.3	11.5	4.8
Students who require support are identified	28.6	16.7	14.7	21.4	18.7
The University operates a call center which assists students in need	17.1	13.1	16.3	30.9	22.6
Seminars/workshops are organized regularly to assist students update e-Learning skills	22.6	21.4	19.8	20.2	15.9
Guidance and Counseling services are provided to students to help balance academic work and psycho-social well-being	2.8	8.7	12.7	31.7	34.5

Table 4.45 indicates that a significant majority of students (93.6%) agree that they receive an orientation to online learning, with 57.9% strongly agreeing and 35.7% agreeing. A small percentage (6.4%) is neutral, indicating minimal disagreement or uncertainty. This high-level agreement suggests effective e-Learning support services

by Universities, potentially increasing Kiswahili language academic achievement by ensuring that students are well prepared to engage with online learning platforms. The data showed that 83.7% of the students agreed (47.6% strongly agreed, 36.1% agreed) that they were adequately oriented on the method of attending online lessons, indicating a positive reception of e-Learning support services.

A smaller fraction expressed neutrality (8.3%), disagreed (4.4%), or strongly disagreed (3.6%). This generally indicates an effective orientation process, which is crucial for increasing student engagement through e-Learning in Kenyan Universities and potentially improving Kiswahili language academic achievement. The data showed that the majority of students, 83%, agreed (39.7% strongly agreed, 43.3% agreed) that they were shown how to engage in e-Learning activities, highlighting the University's commitment to e-Learning support. A small proportion of students were neutral (9.1%), disagreed (2.8%) or strongly disagreed (5.2%), indicating room for improvement.

This effective guidance is critical to promoting student engagement and success in Kiswahili language academic achievement through e-Learning in Kenyan Universities. The data indicate that the majority (68.6%) of students agree (33.7% strongly agree, 34.9% agree) that they are shown how to upload their work, such as CATs and class assignments, to the University's e-Learning support. However, a significant portion expressed neutrality (19.8%), disagreed (7.9%), or strongly disagreed (9%), an area for growth in e-Learning support to better facilitate students' academic achievement in Kiswahili through online platforms. The data shows that a significant majority of students (65.4%) believe that they are shown how to do online tests and assignments, with 30.1% strongly agreeing and 35.3% agreeing, indicating a positive response to e-Learning support services.

However, 18.3% were neutral, and 16.3% either disagreed or strongly disagreed, highlighting areas of guiding students on online assessment to potentially increase their academic achievement in Kiswahili language study. The data indicated that 37.5% of students agreed (25% strongly agreed, 12.5% agreed) that those who needed support were identified, which suggests some effectiveness in the support system. However, a significant portion, 50%, remained neutral, and 12.5% disagreed, indicating uncertainty or dissatisfaction among students. This highlights a critical area to review in the provition of necessary support to enhance e-Learning and academic achievement.

There was a relatively low level of agreement among students regarding the effectiveness of the University's call center in helping those in need, with only 30.2% supporting its usefulness (17.1% strongly agreed, 13.1% agreed). However, a significant proportion of students expressed neutrality (16.3%) or dissatisfaction (53.5% disagreed or strongly disagreed), indicating an important area for improvement in support services to enhance the e-Learning experience and academic achievement of the Kiswahili language. The data shows a moderate level of agreement among students on regular organization of seminars/workshops to help update e-Learning skills, with 22.6% strongly agreeing and 21.4% agreeing. However, there was considerable spread across the spectrum of agreement, including 15.9% who disagree.

This highlights the importance of such academic support services while suggesting room for improvement in their frequency, consistency or communication so that they meet the needs of the wider student body. Enhancing these services can significantly contribute to students' e-Learning effectiveness and, by extension, improve academic achievement in Kiswahili language studies. The data shows a negative inclination towards the University's e-Learning support services, with the majority of students

(66.2%) strongly disagree and disagree that there is provision of guidance and counseling services to help them balance academic work and psycho-social well-being. A small proportion (12.7%) occasionally acknowledges getting these services, while minimal respondents strongly agree (8.7%) or agreeing (2.8%) to get them.

This suggests that while the services are beneficial and appreciated by students the Universities have no good mechanism of providing the services to students to ensure that all students can effectively manage their academic and personal challenges. These results are consistent with the findings of a study conducted by Tavangarian et al. (2004) that current e-Learning systems lack individualization and interaction, requiring flexible multidimensional data models and individual content generation for effective learning support. These findings collaborate with findings of Slimp (2014) that colleges must provide high quality and equitable learner support services to their online students including retention services such as orientation, advising, coaching, course registration. Student engagement such as students' activities, student government and learning support such as library services, tutoring, career services and technology support. The findings are further consistent with the findings of Hardman and Dunlap (2003) who stated that learner support services program is a critical component for effective retention for online learners. Learner support services can effectively solve problems of isolation, lack of self-direction and manage e-Learners.

Table 4.46 Distribution of the Extend to which Lecturers Agreed with Provision of e-Learning Support Services

Statement	SA %	A %	U %	D %	SD %
Students are oriented to undertake online learning	62.5	0.0	0.0	12.5	25.0
Students are taken through mechanism of accessing learning materials	25.0	50.0	0.0	0.0	25.0
Students are taken through mechanism of attending on-line lessons	50.0	25.0	0.0	0.0	25.0
Students are shown how to engage in e-Learning activities	50.0	12.5	25.0	12.5	0.0
Students are shown how to upload their work	62.5	0.0	37.5	0.0	0.0
Students are shown how to sit on-line tests	50.0	12.5	25.0	12.5	0.0
Students who require support are identified	25.0	12.5	50.0	0.0	12.5
The University operates a call center which assists students in need	12.5	12.5	25.0	25.0	25.0
Seminars/workshops are organized regularly to assist students update their e-Learning skills	37.5	25.0	37.5	0.0	0.0
Guidance and Counseling services are provided to students to help them balance academic work and psycho-social well-being	25.0	12.5	0.0	25.0	37.5

The data in Table 4.46 above show significant agreement among lecturers (62.5%) that students are oriented to undertake online learning, indicating a strong foundation for e-Learning in the surveyed Universities. However, there is a significant section with 12.5% and 25% respectively showing less agreement or dissatisfaction. This suggests that while significant efforts are being made towards an e-Learning orientation, there remains room for improvement to ensure that all lecturers perceive these efforts as effective and comprehensive. Enhancing orientation programs can further support Kiswahili language academic achievement

The data shows that 75% of lecturers agree that students are engaged by the method of accessing learning materials, with a clear majority (50%) agreeing and 25% strongly agreeing. However, 25% of lecturers believe that this is not happening, indicating a gap in the communication or implementation of e-Learning support services. Addressing this gap is critical to enhancing e-Learning experiences and can significantly influence Kiswahili language academic achievement by ensuring students have the necessary access to learning materials through e-Learning. The data show strong consensus among lecturers regarding students' approach to attending online lessons, with 75% indicating agreement (50% "agree" and 25% "strongly agree") that students are effectively guided by both administration and lecturers.

However, a significant 25% of lecturers expressed disagreement. This suggests a successful implementation of the orientation program for most students, but also highlights a significant area for improvement to ensure uniform effectiveness among all participants. The data shows there was positive feedback from lecturers regarding students' approach to engaging in e-Learning activities, with 62.5% agreeing (50% "agree" and 12.5% "strongly agree") that students are shown how to engage in e-Learning. 37.5% of the lecturers observed this occasionally or rarely, none of the lecturers indicated that it never happened. This suggests that although most students were guided to engage with e-Learning, there wass room to increase the consistency and reach to this approach to ensure that all students wesre equally prepared for the e-Learning environment.

The data reflect strong instructor agreement (62.5%) in showing students how to upload their work, with no disagreement or neutrality reported. A significant portion (37.5%) observed this occasionally, but none reported that it never happened. This suggests a

positive attitude towards ensuring that students are equipped with the necessary skills to submit their work online, which is crucial to the success of e-Learning. The uniformity in responses underscores the importance placed on this aspect of e-Learning support, suggesting a strong foundation for online assignment submission processes at these Universities.

The data reveals that 50% of lecturers frequently demonstrate to students how to take online tests, highlighting a significant focus on preparing students for digital assessments. With 12.5% occasionally and 25% rarely engaging in this practice, it underscores a need for more consistent training across the board. This preparation is crucial for ensuring that students can effectively navigate e-Assessment platforms, potentially improving their academic achievement in Kiswahili language studies. The absence of lecturers who never show this process (0%) indicates a universal acknowledgment of its importance in e-Learning environments.

The data suggest that while a quarter of lecturers frequently identify students in need of support, half do so only occasionally, and a significant 12.5% never engage in this practice. This suggests a gap in proactive support identification, which potentially affects students struggling with e-Learning. Addressing this inconsistency is important to ensure that all students receive the support they need to succeed in their Kiswahili language academic pursuits, while increasing overall academic achievement within an e-Learning framework. The distribution indicates different perceptions among lecturers regarding the role of the call center in providing e-Learning support, with equal parts agreeing and disagreeing with its effectiveness.

A significant 50% feel it is only occasionally or rarely useful, pointing to potential gaps in meeting student needs. This mixed feedback implies the need to reassess and improve

call center capabilities to ensure effective support and contribute positively to academic achievement in Kiswahili. The data indicates that a significant majority of lecturers (75%) agree that seminars/workshops are organized regularly to help students update their e-Learning skills, with 37.5% strongly agreeing and another 37.5% agreeing. This shows a strong institutional commitment to enhancing students' capabilities in e-Learning, suggesting that Universities are proactive in providing continuous learning opportunities. Such initiatives contribute to improving student engagement and academic achievement in Kiswahili language courses by ensuring that students are well equipped to effectively navigate the online learning environment.

The data indicate that lecturers feel mixed about the provision of guidance and counseling services to help students balance academic work and psycho-social well-being, with 25% agreeing and 12.5% strongly agreeing. However, a significant 37.5% strongly disagreed, indicating a potential gap in service effectiveness or awareness among students. This emphasizes the need to enhance these services and their communication with students, which is critical to supporting the overall success and well-being of students in an e-Learning environment. These results are consistent with the findings of a study conducted by Scagnoli (2001) that online orientation programs for distance learning students can facilitate academic and social interactions, increase involvement, and enhance sense of belonging in a virtual learning community.

These findings support the assertions of Smith (2005) that Universities should provide an online student service that accomplishes three key objectives; identification of the needs of its online and face to face learners, availing services when the learner wants them, rather than when the institution is ready to provide them, ensure that the virtual services are as good as or better than the person equivalents. The findings are further

consistent with findings of Pelletier (2020) who noted that student support service does foster a sense of belonging for the students. The researcher confirms that institutions are not providing equitable learner support services to online students with the most significant gaps identified in student advising and counselling.

4.7.2 Thematic Analysis of Qualitative Findings on Relationship between e-Learning Support Services and Kiswahili Language Academic Achievement

4.7.2.1 Availability of e-Learning Support Services

The researcher sought to establish the availability of e-Learning support services in the University and the following are the responses of the Directors;

One of the Directors remarked:

> "University *offers support services to students through the support staff in the ODeL center."* (DIR.1)

Another Director noted:

> "*The University has real time email system & phone to respond to students, trainings are done every beginning of semester."* (DIR.2)

The last Director said:

> "*There is a functional Guidance and Counseling unit, there are policies on online learning for students."* (DIR.3)

Thematic analysis data above indicates a positive relationship between e-Learning support services and academic achievement in Kiswahili language studies. Extensive support, including ODeL Center staff, real-time communication and periodic trainings, likely enhances students' learning experiences. Availability of guidance and counseling, along with online learning policies, can further contribute to an environment conducive to academic success. These services can potentially reduce the challenges associated with e-Learning, positively impacting Kiswahili language academic achievement.

These results were consistent with the findings of a study conducted by Alam et al. (2021) that holistic e-Learning service framework can ensure effective delivery and use of e-Learning services, contributing to sustainable learning and academic performance.

4.7.2.2 Orientation of Students on Online Learning

The researcher sought to establish the on the orientation of students on online in the University and the following are the responses of the Directors;

One of the Directors confirmed:

> "*All Freshers are oriented on online learning upon reporting to University."* (DIR.1)

Another one said:

> *"Our Students are normally oriented on online learning."* (DIR.2)

The last Director noted:

> "*We do Virtual orientation done to our first years and to all students every semester."* (DIR.3)

Responses in the qualitative data above indicated a strong emphasis on orienting students to online learning, suggesting a proactive approach to e-Learning engagement. By orienting all students, especially freshers, at the beginning and each semester, the University potentially increases student preparation and adaptability to the online learning environment. This consistent approach can positively impact academic achievement in Kiswahili language learning by equipping students with the necessary skills and knowledge to effectively navigate online learning platforms, leading to better academic outcomes**.** These findings support the assertions of Abdous (2019) that online learning orientations should address factors influencing anxiety in online students, boosting their confidence, motivation, and preparedness for success in online courses.

4.7.2.3 Accessibility of Learning Materials by the Students (Modules, e-Library, Digital Repositories, e-Books and e-Journals)

The researcher sought to establish the accessibility of learning materials by students and the following are the responses of the Directors;

A Director noted:

> *"Students are oriented on how to access the e-Library, Digital Repositories, e-Books and e-Journals."* (DIR.1)

Another one said:

> *"Students are assisted through provision of LMS."* (DIR.2)

The last one confirmed:

> *"Students are always allowed to access learning materials through LMS."* (DIR.3)

The above thematic analysis data focuses on ensuring student access to learning materials through orientation to e-Libraries, Digital Repositories, e-Books and e-Journals along with the provision and facilitation of LMS. This access is critical to the academic success of the Kiswahili language, as it provides students with abundant resources to support their studies. Directors' responses indicate that the availability and accessibility of various learning materials through a structured platform such as LMS contributes significantly to enriching the learning experience, potentially leading to improved academic outcomes in Kiswahili language learning. These findings support the assertions of Phipps and Kelly (2006) that a holistic framework for e-Learning accessibility considers learner needs, learning outcomes, local factors, infrastructure, usability, and quality assurance, in addition to accessibility.

4.7.2.4 Students' Attendance to Online Lessons

The researcher sought to establish students' guidance to online lessons and the following are the responses of the Directors;

One of the Directors posited:

> "*Only students who have cleared fees are allowed by the system to attend online classes."* (DIR.1)

Another Director said:

> *"Students are always assisted on request'* and the other one said, '*Lecturers usually guide students."* (DIR.2)

The thematic analysis above suggests that students' attendance at online lessons in Kiswahili language studies can be influenced by administrative policies, support methods, and direct guidance from lecturers. Requiring fee clearance to attend classes could potentially limit access for some students, affecting their academic progress. However, on demand assistance and guidance from lecturers indicate efforts to support student engagement and learning. Together, these factors suggest that despite barriers, there are also supportive measures to facilitate students' active participation in online Kiswahili language lessons, which are critical to their academic achievement.

These findings are also consistent with the assertions of Pelletier (2020) noted that student support service does foster a sense of belonging for the students. The researcher confirms that institutions are not providing equitable learner support services to online students with the most significant gaps identified in student advising and counseling.

4.7.2.5 Engagement of e-Learning Activities (Discussions, Chats, Forums)

The researcher sought to establish the support of learners in engagement of e-Learning activities and the following are the responses of the Directors**;**

One of the Directors asserted**:**

> *"Lecturers engage students in the chatroom of LMS and are able to express their challenges."* (DIR.1)

Another Director said**:**

> *"Students are assisted on request* 'and the other one confirmed, *'Students are assisted by lecturers and ICT department."* (DIR.2)

The thematic analysis above reveals a concerted effort to support student engagement in e-Learning activities for Kiswahili language learning with a focus on interactive platforms such as chat rooms. Lecturers play a key role in facilitating discussions and addressing challenges, enhancing the learning experience. Assistance on request and support from both lecturers and the ICT department indicate a responsive and supportive learning environment. This active engagement likely fosters a deeper understanding of the Kiswahili language, which positively contributes to students' academic performance and overall learning experience. These findings support the assertions of Lim (2004) that learner engagement is paramount to learning success. There is importance of learner engagement in online learning environments, highlighting the need for mindfulness, cognitive effort, and attention in order to enhance the learning experience.

4.7.2.6 Uploading of Assignments and CATs

The researcher sought to establish the support in uploading of assignments in the University and the following are the responses of the Directors;

A Director said:

> "*Students who are unable to upload assignments and CATs are assisted by ODeL center staff'."* (DIR.1)

Another Director said:

> "*Students are assisted on request."* (DIR.2)

The third Director confirmed:

> "*Students are assisted by lecturers and ICT department."* (DIR.3)

The thematic analysis above indicates strong support for students in uploading assignments and Continuous Assessment Tests (CATs), which are crucial for Kiswahili language academic achievement. On request ODeL center staff, lecturers and assistance from the ICT Department suggest supporting infrastructure designed to overcome technical barriers. This support ensures that technical difficulties do not impede students' ability to submit work, thereby maintaining their academic progress. This type of system contributes positively to student performance in Kiswahili language courses by enabling timely submission and feedback on assignments and assessments. These findings support the assertions of Lee et al. (2011) that support in online courses significantly impacts student satisfaction and learning outcomes.

4.7.2.7 Identification of students who need e-Learning support

The researcher sought to establish the identification of students who need support in the University and the following are the responses of the Directors;

One of the Directors noted:

> "*Chatrooms and discussion forums help lecturers identify students who need support, those in need do report to ODeL center"* (DIR.1)

Another one said:

> "*Students report to ODeL center or SMS for assistance.*" (DIR.2)

The third one stated:

> "*Students visit ODeL center or email."* (DIR.3)

The thematic analysis above suggests an effective method for identifying students in need of e-Learning support, which is crucial for Kiswahili language academic success. Through chatrooms, discussion forums and direct communication through calls, SMS or emails, lecturers and ODeL Center can guide and help students facing challenges.

This proactive and responsive identification and support system ensures that students receive the help they need in a timely manner, potentially reducing barriers to learning and increasing their academic achievement in the Kiswahili language. These findings support the assertions of Goulão (2019) that e-student support, such as forums for collaborative work, positively impacts their learning experience and helps them recognize their role in addressing content challenges.

4.7.2.8 Guidance and Counseling Services Offered to Students on Academic Work

The researcher sought to establish the availability of guidance and counseling services in the University and the following are the responses of the Directors**;**

One of the Directors remarked:

> *"None of the services is provided to students for now concerning e-Learning."* (DIR.1)

The one said:

> *"There is no guidance and counseling services in ODeL center."* (DIR.2)

The third Director confirmed:

> "*No guidance and counseling services are available in our institution."* (DIR.3)

The thematic analysis above revealed significant differences in the provision of guidance and counseling services to students, which could potentially negatively affect academic achievement in the Kiswahili language. The unanimous lack of such services reported by Directors suggests that students do not have access to the support mechanisms necessary to address the academic, emotional, or psychological challenges associated with e-Learning. This absence can hinder students' ability to overcome obstacles, manage stress and achieve their full academic potential in Kiswahili language

studies, highlighting areas for improvement in student support services. These views support the assertions of Chigbu (2023) that e-Counselling significantly improves career development among undergraduate students at Enugu State University of Science and Technology, Nigeria therefore important to students.

4.7.3 Inferential results on the Relationship between Use of e-Learning Support Services and Kiswahili Language Academic Achievement

To verify the possibility of relationship between use of e-Learning support services and Kiswahili language academic achievement, data was collected on the extend to which the students, lecturers and Directors agreed on the provision of e-Learning support services by the University. These results were further subjected to Pearson product Moment Correlation Test Analysis for hypothesis four testing to establish the extent to which use of e-Learning support services relates to Kiswahili language students' academic achievement and results were as shown in Tables 4.47 and 4.48;

Table 4.47 shows a positive Pearson Moment correlation (r = .142) between the use of e-Learning support services and academic achievement in Kiswahili language among students, which is statistically significant at the 0.05 level (2-tailed), a significance value. 024. Firstly, the correlation coefficient (Pearson's r) for the relationship between e-Learning support services and academic achievement in Kiswahili language is 0.142. This value indicates a positive correlation, suggesting that as the provision of e-Learning support services increases, academic achievement in Kiswahili language also tends to increase. However, similar to the previous analysis, the strength of this correlation is relatively weak.

Table 4.47: Pearson Product Moment Correlation Test Analysis Showing Relationship between Use of e-Learning Support Services and Kiswahili Language Students' Academic Achievement

Correlations			
		e-Learning Support Services	Academic Achievement
e-Learning Support Services	Pearson Correlation	1	.142**
	Sig. (2-tailed)		.024
	N	252	252
Academic Achievement	Pearson Correlation	.142**	1
	Sig. (2-tailed)	.024	
	N	252	252

*. Correlation is significant at the 0.05 level (2-tailed).

The significance level (Sig.) associated with this correlation is 0.024. This value indicates the probability of observing the correlation coefficient if there were actually no relationship between the provision of e-Learning support services and academic achievement in Kiswahili language (i.e., the null hypothesis was true). With a significance level below 0.05, the correlation is deemed statistically significant. Therefore, based on the data provided, we reject the null hypothesis **H_o4** which postulates that there is no significant relationship between the provision of e-Learning support to students and academic achievement in Kiswahili.

Rejecting the null hypothesis means that there is evidence to suggest that there is indeed a significant relationship between the two variables. Although the correlation is statistically significant, the strength of the correlation is relatively weak (0.142). This suggests that while there is a discernible pattern indicating that increased provision of e-Learning support services is associated with higher academic achievement in Kiswahili, other factors are likely to play a significant role in determining academic performance in the subject. The implication of the research is that e-Learning tools can

provide beneficial support for language learning, which warrants further research on how these tools can be optimized to improve academic performance in Kiswahili.

The findings may provide empirical support for the importance of e-Learning support services in improving academic performance, especially in the teaching of Kiswahili. Institutions and educators may consider investing resources in developing and providing effective e-Learning support services to students to facilitate learning and improve outcomes. e-Learning support services can help create a more conducive and supportive learning environment for students engaged in online or blended learning formats. Services such as online tutoring, discussion forums, interactive learning modules, and access to academic resources can improve student understanding, engagement, and overall academic performance.

e-Learning support services can be tailored to meet the specific needs and challenges of Kiswahili learners. For example, personalized feedback, language exercises and cultural immersion experiences can be incorporated into support services to optimize students' language learning outcomes. Effective e-Learning support services can enable students to take ownership of their learning journey and develop self-regulated learning skills. By providing access to resources, guidance and assistance when needed, these services support students' autonomy and resilience, enabling them to overcome educational barriers and achieve academic success.

Implementing e-Learning support services may require training and professional development opportunities for educators to effectively use digital tools and online platforms for instructional purposes. Educators can benefit from learning how to use e-Learning support services to enrich their teaching practices and better support the learning needs of students in a variety of learning environments. In conclusion, the

correlation analysis between the provision of e-Learning support services and academic achievement in Kiswahili provides evidence to reject the null hypothesis, indicating a significant relationship between these variables. The findings underscore the importance of investing in and optimizing e-Learning support services to support student success in language learning contexts.

However, further research and reflection on pedagogical strategies, technology infrastructure and equity considerations are essential to maximize the effectiveness and inclusiveness of e-Learning support services in different educational contexts. These results are consistent with the findings of a study conducted by Wambua et al. (2019) that e-Learning learner support services greatly impact learners' academic achievement. The findings are further consistent with the findings of Al-Fraihat et al. (2020) that e-Learning success is influenced by technical system quality, information quality, service quality, support system quality, learner quality, instructor quality, and perceived usefulness. These findings support the assertions of Moore (2003) who elaborated that learner support services as a support system aimed at enhancing and improving learning.

Table 4.48: Regression Analysis on Use of e-Learning Support Services and Kiswahili Language Students' Academic Achievement

Model Summary				
Model	R	R Square	Adjusted R square	Std. Error of the Estimate
1	.142[a]	.020	.016	258.871

a. Predictors: (Constant), e-Learning Support Services

Regression analysis Table 4.48 shows a low R value of .142, indicating a weak correlation between e-Learning support services and Kiswahili language academic achievement. An R square value of .020 indicates that only 2% of the variance in academic achievement can be explained by the use of e-Learning support services.

Based on the regression analysis results, we can infer that the relationship between the provision of e-Learning support services and academic achievement in Kiswahili language is statistically significant. The model summary indicates that the predictor variable "e-Learning Support Services" contributes to the prediction of academic achievement, as evidenced by the statistically significant R-squared value.

Although the relationship between e-Learning support services and academic achievement in Kiswahili language is statistically significant, the magnitude of the effect, as indicated by the low R-squared value (0.020), is relatively small. This suggests that while e-Learning support services may have a statistically significant impact on learning outcomes, students' performance in Kiswahili is likely to be affected by other factors not included in the regression model. Thus, the null hypothesis **H_o4**, which postulates that there is no significant relationship between the provision of e-Learning support and academic achievement in Kiswahili, was rejected. Despite the weak relationship, the significance of e-Learning as a predictor highlights its potential role in educational strategy.

The statistically significant relationship between e-Learning support services and academic achievement in Kiswahili underscores the importance of these support services in facilitating student learning and success. Institutions and educators should continue to prioritize the provision of e-Learning support services to improve students' access to resources, guidance and assistance in their language learning endeavours. The moderate effect size suggests that other factors such as teaching quality, student motivation, socioeconomic background, and access to educational resources may also play a significant role in determining learning outcomes in Kiswahili. Future research

could explore the complex interplay of these factors and their combined impact on student achievement.

In conclusion, the regression analysis provides evidence to reject the null hypothesis **$H_0$4**, which suggests a statistically significant relationship between the provision of e-Learning support services and academic achievement in Kiswahili. While the effect size is relatively small, the findings underscore the importance of e-Learning support services in supporting student learning and success. However, further research is needed to better understand the nuanced factors influencing academic achievement in Kiswahili and to inform the development of effective interventions and support strategies. This research also suggests the need for further research on how e-Learning services can be effectively integrated to support language learning outcomes.

These results are consistent with the findings of a study conducted by Wang and Cheng (2009) that e-Learning support services, especially personalized learning support, can maintain learners' motivation and facilitate learning. These findings also support the assertions of Baloyi (2014) who stated that e-Learning learner support greatly impact learners' academic achievement. These results are consistent with the findings of Al-Fraihat et al. (2020) argued that e-Learning support system quality positively affects student performance in University contexts.

4.8 Kiswahili Language Students' Academic Achievement in selected Universities in Kenya

The researcher also sought to establish the academic achievement in Kiswahili language students of the selected Universities in Kenya. Students were asked to indicate their performance in their academic year, lecturers were to indicate their opinion on the effect of e-Learning to academic achievement in Kiswahili language and Directors were

asked to indicate Kiswahili academic trends of the students. Data was collected from the three Universities, organized, summarized and analyzed in form of percentages and frequencies and results are as indicated shown in Tables 4.49 and 4.50 as well as thematic analysis in 4.9.1 below;

Table 4.49: The Distribution of Students' Average Grade in Kiswahili Language

Grade	Frequency	Percentage (%)
A	22	8.7
B	167	66.2
C	40	15.9
D	1	.4
NA	15	6.0
NI	7	2.8
Totals	**252**	**100**

The distribution of grades in Kiswahili in Table 4.49 above shows that the majority of students (66.3%) achieve B grade, which generally indicates a high level of academic performance. The small percentages of students receiving the highest (A, 8.7%) and lowest grades (D, .4%; NA, 6.0%; NI, 2.8%) indicate that while the majority manages to understand Kiswahili effectively, there is a distinct minority those who excel or struggle significantly. This distribution suggests a positive impact of e-Learning on Kiswahili language achievement for most students, but also highlights the need for targeted support for those at the lower end of the grade spectrum to improve their results. These results are consistent with the findings of a study conducted by Joe, Kpolovie, Osonwa and Idelima (2014) elaborated that academic achievement refers to the observed and measured aspect of a students' mastery of skills developed in school subjects' contents as measured with valid and reliable tests.

Table 4.50: Effect of e-Learning on Students' Examination Achievement (Lecturers)

Achievement (effect)	Frequency	Percentage (%)
Students will achieve more if well trained	1	12.5
There has been improvement in learner retention hence high academic achievement	1	12.5
The performance is lower compared with face to face learning	1	12.5
Minimal effect in performance	1	12.5
Students are able to access e-Learning materials anytime hence improvement on academic achievement	2	25.0
Availability of e-Resources has assisted in learners' retention and hence improvement in Kiswahili language	2	25.0
Total	**8**	**100**

The distribution of lecturers' perceptions of the impact of e-Learning on Kiswahili students' academic achievement in the Table 4.50 above presents a mixed picture. 50% of responses indicate a positive impact of e-Learning through improved access to content and resources, leading to better learner retention and academic outcomes. However, 37.5% expressed concern about the adequacy of training and the comparative effectiveness of e-Learning versus traditional face-to-face instruction. This suggests that despite the potential benefits of e-Learning for Kiswahili language learning, its success depends significantly on the quality of implementation and the support provided to both students and teachers. These results were consistent with the findings of a study conducted by Kpolovie (2010) which indicated that a student's academic performance is usually measured by teacher-made tests or standardized tests.

4.8.1 Thematic Analysis of Qualitative Findings on Students' Achievement Trends by Directors

The researcher sought to establish the students' achievement trends and the following are the responses of the Directors;

The first Director posited:

> "*ODeL Director most of the times may not know the academic performance of the students and therefore the right personnel to monitor students' achievement are the lecturers in the respective department."* (DIR.1)

The second Director said:

> "*There has been progression of students in inception of e-Learning, students have embraced and appreciated the e-Learning programme."* (DIR.2)

The third Director confirmed:

> "*In our institution, students have positively embraced e-Learning hence improved academic achievement."* (DIR.3)

The thematic analysis reveals different perspectives among the Directors regarding the impact of e-Learning on students' academic achievement in Kiswahili. The first highlighted gaps in Director supervision, noting that Directors may lack direct knowledge of student performance, suggesting a reliance on lecturers for supervision. In contrast, other Directors report positive student reception and academic progress after adopting e-Learning, indicating an overall beneficial effect on Kiswahili language students' academic achievement. This disparity indicates the need for better communication and monitoring mechanisms between administrative Directors and lecturers to ensure accurate understanding of student performance trends. Furthermore, the positive feedback from most of the Directors underscores the potential of e-Learning as a tool to increase academic achievement in Kiswahili language studies, which warrants further investment and research to optimize e-Learning platforms for language learning. These results were consistent with the findings of a study conducted by Zolochevskaya et al. (2021) that e-Learning, leveraging ICT, significantly improves academic success for students in universities.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents a summary of the results and findings of the study on the relationship between e-Learning and Kiswahili language students' academic achievement in selected Universities in Kenya as discussed in chapter four, it makes conclusions on the findings of the study, recommendations for practice as well as the recommendations for further research that the researcher made with regards to the study results. The chapter also presents recommendations for further study.

5.1 Summary of the Findings

This section provides a detailed summary of the major study findings well illustrated as per the four study objectives.

5.1.1 The Relationship between Use of e-Resources and Kiswahili Language Students' Achievement in Selected Universities in Kenya

In line with objective one, the research investigating the relationship between the use of e-Learning resources and Kiswahili language students' academic achievement in selected Kenyan Universities offers comprehensive insights into how digital tools and platforms contribute to educational success. Through an analysis of the distribution and utilization of e-Learning materials among students, lecturers, and Directors, alongside the examination of the challenges and advantages associated with e-Learning, this research provides a nuanced understanding of the digital learning landscape in Kiswahili language education. The majority of student's own computers/laptops and mobile phones, indicating a readiness to engage with digital learning platforms.

However, access to specialized e-Learning materials is less widespread, highlighting a gap in resources necessary for comprehensive digital education.

Universities play a crucial role in supplying essential e-Learning infrastructure, including LMS, e-Libraries, and internet services. This support is vital for students who lack personal access to extensive e-Learning materials. Lecturers and Directors exhibit a high degree of digital resource ownership and are well-supported by University provisions, suggesting an environment conducive to e-Learning. The universal access to LMS among lecturers underscores a commitment to digital education.

There is a notable variance in how frequently students and lecturers use different e-Learning resources, with some tools being underutilized. The above point to potential areas for improvement in the adoption and integration of e-Learning strategies. Key challenges include the time-intensive nature of course preparation, reluctance among lecturers to embrace digital methods, poor internet connectivity, and the need for capacity building for both students and lecturers. Statistical analysis reveals a positive but modest relationship between the use of e-Learning resources and academic achievement in Kiswahili, indicating the potential of e-Resources to enhance educational outcomes.

5.1.2 The Relationship between Adoption of e-Assessment and Kiswahili Language Students' Achievement in Selected Universities in Kenya

In line with objective two, the relationship between the adoption of e-Assessment and Kiswahili language students' academic achievement explores the integration of digital evaluation methods into the educational process and its impact on learning outcomes. This analysis synthesizes findings from various sources, including student and lecturer responses, Director insights, and statistical data, to evaluate how e-Assessment

practices influence academic success in Kiswahili language studies within Kenyan Universities. A significant majority of students and lecturers exhibit a preference for a blended approach to assessment, combining both online and offline methods. This preference suggests recognition of the unique benefits provided by each assessment mode and an appreciation for the flexibility and comprehensive evaluation strategies they offer.

The data indicates a substantial alignment between student preferences and lecturer practices, underscoring a collaborative educational ecosystem that supports diverse learning and assessment needs. Directors report varying degrees of e-Assessment adoption within their ODeL centers, with some favoring exclusively online methods and others implementing a hybrid approach. This variance reflects the adaptability of e-Learning environments to pedagogical preferences and logistical considerations, highlighting the importance of flexible assessment strategies in optimizing academic achievement in Kiswahili language studies. The statistical analysis presents a nuanced view of the relationship between e-Assessment practices and Kiswahili language academic achievement.

While qualitative data suggest a positive impact of e-Assessment on learning outcomes, quantitative measures indicate a need for further investigation to establish a statistically significant correlation. This discrepancy points to the complexity of assessing the direct impact of e-Assessment on academic success and suggests that other factors may also play a significant role.

5.1.3 The Relationship between Utilization of LMS and Kiswahili Language Students' Achievement in Selected Universities in Kenya

In line with objective three, the relationship between the utilization of LMS and Kiswahili language students' academic achievement in Kenyan Universities is a pivotal area of study. This research delves into the distribution of students' LMS utilization across various learning activities, benefits, challenges, and suggestions for improvement, alongside lecturers' usage patterns, and draws correlations between LMS usage and academic achievement. The study reveals a high engagement level among students using LMS for registering Kiswahili courses, accessing e-Learning materials, attending e-Lectures, engaging in e-Learning activities, completing assignments, and communicating with lecturers and peers. However, the data also highlight a variance in the frequency of these activities, with a notable percentage of students rarely or never utilizing LMS for certain functions, indicating potential areas for improvement.

Students and lecturers recognize the benefits of LMS, including ease of use, accessibility, effectiveness in learning, and convenience. Nonetheless, challenges such as internet connectivity issues, expensive data bundles, and system reliability concerns persist, affecting the optimal use of LMS. Lecturers frequently use LMS for preparing and uploading teaching materials, organizing e-Learning activities, and delivering content. However, the varied frequency in using LMS for assessing learners and providing feedback suggests room for increased and more uniform integration of LMS functionalities.

Pearson correlation and regression analysis indicate a positive, albeit weak, relationship between LMS use and academic achievement in Kiswahili. The findings suggest that while LMS use contributes positively to students' learning outcomes, the effect size is modest. Enhance internet connectivity and reliability within University premises and student accommodations to mitigate access and functionality issues. Implement

comprehensive training programs for both students and lecturers to maximize the effective use of LMS functionalities. Regularly update and customize LMS to cater to the specific needs of Kiswahili language courses, including adding resources and interactive tools. Address fee-related access barriers to ensure that all students can utilize LMS regardless of their fee payment status.

5.1.4 The Relationship between e-Learning Support Services and Kiswahili Language Students' Academic Achievement in Selected Universities in Kenya

In line with objective four, the relationship between the provision of e-Learning support services and Kiswahili language students' academic achievement underscores the critical role of comprehensive support structures in facilitating successful online education environments. This analysis synthesizes data from various sources, including student and lecturer responses, Director insights, and statistical correlations, to evaluate the impact of these services on academic outcomes in Kiswahili language studies within Kenyan Universities. The data reveal a significant appreciation among students and lecturers for the orientation and support services provided by Universities for online learning. A high percentage of students affirm receiving orientation to undertake online learning, access e-Learning materials, engage in activities, and manage online submissions.

Similarly, lecturers acknowledge the efforts to orient students and facilitate their engagement with e-Learning platforms. However, challenges such as internet accessibility, fee-related barriers, and the need for more consistent support mechanisms are highlighted. Directors affirm the availability of support services, including orientation programs, access to learning materials, and mechanisms for student

engagement in online learning activities. They also acknowledge efforts to assist students in submitting assignments and identifying those requiring additional support.

Nevertheless, gaps in guidance and counseling services are evident, pointing to areas needing enhancement to support students' holistic well-being and academic success. Statistical analysis indicates a positive correlation between the use of e-Learning support services and Kiswahili language academic achievement, albeit modest. This relationship underscores the potential of well-structured support services to enhance academic outcomes, suggesting that the effective utilization of e-Learning platforms can contribute positively to students' learning experiences and achievements in Kiswahili studies

5.2 Conclusions

The findings illustrate a positive correlation between the use of e-Resources and academic achievement in Kiswahili language studies. While e-Resources offer substantial benefits in enhancing learning outcomes, their effectiveness is curtailed by infrastructural deficiencies and resistance to digital adoption. The significant reliance on Universities for access to digital resources and the widespread use of computing devices among students and lecturers underscore the transformative potential of e-Resources in academic settings. The adoption of e-Assessment in Kiswahili language studies demonstrates a concerted effort to leverage digital tools in enhancing academic evaluation processes.

The preference for blended assessment approaches reflects a pragmatic strategy to cater to varied learning preferences and technological access levels, potentially enriching the academic experience for students. However, the effectiveness of e-Assessment in significantly improving Kiswahili language academic achievement requires further

exploration, considering the multifaceted nature of learning and assessment in digital environments**.** The research underscores the critical role of LMS in facilitating Kiswahili language learning through enhanced accessibility, flexibility, and interactivity. While students and lecturers benefit significantly from LMS, challenges related to technology infrastructure, internet access, and system functionality limit the full exploitation of LMS potentials.

The positive correlation between LMS utilization and academic achievement, despite being modest, highlights the importance of LMS in educational contexts. The provision of e-Learning support services plays a fundamental role in enhancing academic achievement in Kiswahili language studies within Kenyan Universities. While students and lecturers generally perceive these services positively, highlighting their importance in facilitating successful online learning experiences, identified challenges necessitate focused improvements. The statistical correlation, though weak, further emphasizes the significance of these support structures in contributing to academic success, indicating that enhancements in this area can lead to more substantial academic gains.

5.3 Recommendations for Policy and Practice

Based on the findings, the study recommends that Universities should;

i) Adopt policies and incentives that encourage lecturers to integrate e-Resources into their teaching, overcoming resistance to digital change.
ii) Implement targeted training programs for students and lecturers to improve digital skills, fostering a positive attitude towards e-Learning and maximizing the use of digital resources.
iii) Develop policies to ensure that all students, regardless of their financial status or geographical location, have equal access to e-Assessment opportunities.

iv) Offer ongoing training for students and lecturers on e-Assessment tools and best practices to ensure effective implementation and utilization.

v) Invest in upgrading LMS infrastructure and technology to improve accessibility and engagement.

vi) Customize LMS features to cater specifically to the needs of Kiswahili language courses and integrate more interactive and collaborative tools to foster engagement and participation.

vii) Develop and implement guidance and counseling services focused on supporting students' well-being and academic success in an e-Learning environment.

viii) Establish more robust mechanisms to identify and support students requiring assistance, including academic, technical, and psycho-social support, to ensure no student is left behind due to e-Learning challenges.

5.4 Recommendations for Further Research

For future research, it is suggested studies be conducted on the underlisted subject;

i) To examine how digital literacy levels among students and lecturers influence the effectiveness of e-Learning resources in improving academic outcomes.

ii) To explore deeper insights into student and lecturer attitudes toward e-Assessment and how these attitudes influence academic engagement and outcomes.

iii) To establish the specific aspects of LMS that most significantly impact Kiswahili language academic achievement.

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APPENDIX I

LETTER OF INTRODUCTION

REF: EWK/OI/2021

ELIZABETH WELU KIAMBA,
P.O. BOX 2085-90100,
MACHAKOS.
12-10-2022

THE VICE CHANCELLOR,

----------UNIVERSITY,

KENYA.

RE: PARTICIPATION IN ACADEMIC RESEARCH

I am a postgraduate student at Machakos University pursuing PhD degree in Education in the department of Educational Communication &Technology. I am currently undertaking research entitled, 'The ***Relationship between e-Learning and Kiswahili Language Students' Achievement in Selected* Universities in Kenya.'** I am pleased to inform you that your University has been selected to participate in the study. The identity of the respondents was treated with utmost confidentiality and the data collected was used for academic purpose only.

Yours faithfully,
Elizabeth Welu Kiamba

E83-2750-2018

Phone No. 0729817995/0708038829

APPENDIX II

KISWAHILI LANGUAGE LECTURERS' QUESTIONNAIRE

Dear Lecturer,

My name is Elizabeth Welu Kiamba, I am a PhD student at Machakos University, currently carrying out a research as part of the coursework. The research is titled, *'**The Relationship between e-Learning and Kiswahili Language students' Academic Achievement in Selected Universities in Kenya.*** I believe you have information that could contribute significantly towards the success of the study. I am therefore kindly requesting you to participate in this study by filling this questionnaire. May I assure you that any information given was treated with utmost confidentiality and will only be used for purposes of this research.

I thank you in advance for accepting to participate in this study.

Elizabeth Welu Kiamba
Machakos University
P. O. Box136-90100
Machakos
Cell Phone No. 0729817995/0708038829

Instructions.

- Please do not write your name on the questionnaire
- Indicate the selected responses by placing a tick (√) in the chosen cell/box or provide the answer on the given space

Section A: Demographic Information

1. Gender Male[ ] Female [ ]
2. Highest level of education Professor [ ] Post-doctorate [ ] PhD [ ] Masters [ ] Others (specify) ……..…….
3. Institution Machakos [ ] Muranga [ ] CUEA [ ]
4. How long have you been a staff in the University? ……. years

Section B: The Relationship between Use of e- Resources and Kiswahili Language Students' Achievement

1. Please list the e-Resources available to you as a Kiswahili language Lecturer.

Source	**Resource**	**Response (**tick all that are applicable**)**
Owned	Computer/Laptop	
	Mobile phone	
	e-Teaching materials (CDs, DVDs, e-Books, e-Journals, software)	
	Others (specify)	
University Supported	Computer/Laptop	
	Peripherals (Printer, projector, Mobile phone)	
	Learning management system (LMS)	
	e-Library	
	E-teaching materials (CDs, DVDs,)	
	Internet services	
	Digital repository	
	Others (specify)	

2. Using the given scale, indicate the frequency of use of the e-Resources listed in the table below when teaching Kiswahili language.
   Scale: Very Often, Often, Occassionally, Rarely, Never

Resource	**Frequency**				
	Very Often	**Often**	**Occasionally**	**Rarely**	**Never**
Computer/Laptop					
Peripherals (Printer, projector, Mobile phone)					
Learning Management System					
e-Library					
e-Teaching materials (videos CDs, DVDs, cameras)					
Digital repository					
Staff e-Mail					
Others (specify)					

3. What is the **main benefit** of using these e-Learning resources in the teaching of Kiswahili language?

.....

What is the **main challenge** when using these e-Learning resources in the teaching of Kiswahili language?

…….

4. Suggest **one way** of improving the teaching of Kiswahili language when using the e-Learning resources

.....
.

Section C: The Relationship between Adoption of e-Assessment and Kiswahili Language Students' Achievement.

1. Which mode of e-Assessment have you adopted as a University?

   On-line [ ] Off-line [ ] Both On-line and Off-line [ ] Others (specify)

   …….

2. Indicate how frequently you use e-mode of assessment when performing the activities *listed in the table below*. Use the given scale.

Scale:Very Often, Often, Occassionally, Rarely, Never

Assessment activity	**Frequency**				
	Very Often	**Often**	**Occasionally**	**Rarely**	**Never**
Preparation of assessment tools (assignments, homework, CATs, examinations)					
Giving class assignments					
Giving homework to students					
Administering Continuous Assessment Tests (CAT)					
Administration of end of semester examinations					
Preparation of examination results					
Giving students feedback based on tests/examination results					
Others (specify)					

3. What is the **main benefit** of using Kiswahili language e-Assessment? …….
4. What is the **main challenge** of e-Assessment with regard to Kiswahili language? …….
5. What can be done (**one suggestion)** to improve e-Assessment? .....

Section D: The Relationship between Utilization of Learning Management System (LMS) and Kiswahili language Students' Academic Achievement.

1. How frequently do you use the Learning Management System (LMS) in your University when conducting Kiswahili Language teaching activities in the table below.

   Scale: Very Often, Often, Occassionally, Rarely, Never

Teaching activity	**Frequency**				
	Very Often	**Often**	**Occasionally**	**Rarely**	**Never**
Preparation of teaching/learning materials					
Uploading learning materials (modules, links to e-Books, journals, Digital Repositories)					
Organizing e-Learning activities					
Registering students for the course					
Delivering content during lessons					
Facilitating e-Learning activities (chats, discussions, forums)					
Assessing learners through different modes					
Giving students feedback based on assessments results					
Maintaining students' academic records					
Others (specify)					

2. What is the **main benefit** of using LMS to manage the teaching of Kiswahili language?

   …….

3. What is the **main challenge** of utilizing LMS to manage teaching of the language?

   ……

4. Give **one suggestion** that can be used to enhance utilization of LMS as a tool for managing the teaching of Kiswahili Language

   .....

Section E: The Relationship between Provision of e-Learning Support Services and Kiswahili Language Students' Academic Achievement

1. Using the given scale, indicate the extent to which you agree with the following statements on the provision of e-Learning support services to Kiswahili language students.

   Scale: SA-Strongly Agree=5; Agree=4; U-Undecided=3; D-Disagree =2; SD-Strongly Disagree=1

Statement	**SA**	**A**	**U**	**D**	**SD**
Students are oriented to undertake online learning in the wake of COVID-19 pandemic					
Students are taken through mechanism of accessing learning materials (modules, e-Library, Digital Repositories, e-Books and journals)					
Students are taken through mechanism of attending on-line lessons					
Students are shown how to engage in e-Learning activities (linking student/student and lecturers/student, discussions, chats, forums)					
Students are shown how to upload their work (CATs, class assignments, homework)					
Students are shown how to sit online tests					
Students who require support (materials, skills, training) are identified					
The University operates a call center which assists students in need					
Seminars/workshops are organized regularly to assist students update their e-Learning skills					
Guidance and Counselling services are provided to students to help them balance academic work and psycho-social well-being during the COVID 19 pandemic					

2. State **one benefit** of the e-Learning support given to Kiswahili Language students ……
3. Give **one suggestion** that can be used to improve e-Learning support to Kiswahili Language students so that learning and performance in the subject can be enhanced ….....
.....

Section G: Students' Academic Achievement

1. What effect has e-Learning on students' achievement in Kiswahili language? ……

Thank you for filling the questionnaire

APPENDIX III

KISWAHILI LANGUAGE STUDENTS' QUESTIONNAIRE

Dear Student,

My name is Elizabeth Welu Kiamba, I am a PhD student at Machakos University, currently carrying out a research as part of the coursework. The study is titled, *'**The Relationship between e-Learning and Kiswahili Language students' Academic Achievement in Selected Universities in Kenya.*** I believe you have information that could contribute significantly towards the success of the study. I am therefore kindly requesting you to participate in this study by filling this questionnaire. May I assure you that any information given was treated with utmost confidentiality and will only be used for purposes of this research.

Thank you in advance for accepting to participate in this study.

Elizabeth Welu Kiamba
Machakos University
P. O. Box 136-90100
Machakos.
Cell Phone No. 0729817995/0708038829

Instructions.

- Please do not write your name on the questionnaire
- Indicate the selected responses by placing a tick (√) in the chosen cell/box or provide the answer on the given space

Section A: Demographic Information

1. Gender Male [ ] Female [ ]
2. Programme ……
3. Academic year ……
4. Institution Machakos [ ] Muranga [ ] CUEA [ ]

Section B: The Relationship between Use of e-Resources and Kiswahili Language Students' Achievement

1. Please list the e-Resources available to you as a Kiswahili language student in the University.

Source	**Resource**	**Response (**tick all that are applicable**)**
Owned	Computer/Laptop	
	Mobile phone	
	e-Learning materials (CDs, DVDs, e-Books, e-Journals, software)	
	Others (specify)	
University Supported	Computer/Laptop	
	Learning management system (LMS)	
	e-Library	
	e-Learning materials (video recorders, CDs, DVDs,)	
	Digital repository	
	Internet services	
	Others (specify)	

2. Using the given scale indicate the frequency of use of the e-Resources listed in the table below when learning Kiswahili language.
   Scale: Very Often, Often, Occassionally, Rarely, Never

Resource	**Frequency**				
	Very Often	**Often**	**Occasionally**	**Rarely**	**Never**
Computer/Laptop					
Peripherals (Printer, projector, Mobile phone)					
Learning Management System					
e-Library					
e-Learning materials (CDs, DVDs, modules, e-Journals, books)					
Digital repository					
Internet services					
Students' e-Mail services					
Others (specify)					

3. What is the **main benefit** of learning Kiswahili language using these e-Learning resources?
   ……..

.....

4. What is the **main challenge** when using these e-Learning resources?
   …….
5. Suggest **one way** of improving the learning of Kiswahili language when using the e-Learning resources
   .....

Section C: The Relationship between Adoption of e-Assessment and Kiswahili Language Students' Achievement

1. Which mode of e-Assessment is used in your University?
   On-line [ ] Off-line [ ] Both On-line and Off-line [ ] Others (specify)
   ……
   ……..…….
2. Indicate how frequently you are e-assessed using the methods listed in the table below.
   Use the given scale. ***Scale: Very Often, Often, Occassionally, Rarely, Never***

Assessment method	**Frequency**				
	Very Often	**Often**	**Occasionally**	**Rarely**	**Never**
Class assignments					
Homework					
Continuous Assessment Tests (CAT)					
Research/Seminar paper					
End of semester examinations					
Project					
Others (specify)					

Section D: The Relationship between Utilization of Learning Management System (LMS) and Kiswahili language Students' Academic Achievement.

1. How frequently do you use the Learning Management System (LMS) when performing the Kiswahili Language learning activities in the table below.
   Scale: Very Often, Often, Occassionally, Rarely, Never

Learning activity	**Frequency**				
	Very Often	**Often**	**Occasionally**	**Rarely**	**Never**
Registering for the Kiswahili courses/units					
Accessing e-Learning materials (course outlines, modules, e-Library, e-Books and e-Journal, (data repositories)					
Attending e-Lectures					
Engaging in e-Learning activities (chats, discussions, forums)					
Doing assignments (class assignment, homework, CATs)					
Uploading assignments					
Accessing academic records					
Communicating with lecturers/students/University administration					
Others (specify)					

2. What is the **main benefit** of using LMS when learning Kiswahili language? …….

3. What is the **main challenge of** utilizing LMS when learning Kiswahili language?

   ……

   ……..……..

4. Give **one suggestion** that can be used to improve utilization of LMS and learning of Kiswahili Language ….....

Section E: The relationship between Provision of e-Learning Support Services and Kiswahili Language Students' Academic Achievement.

1. Please indicate the extent to which you agree with the following statements on the provision of e-Learning support services to Kiswahili language students.

Scale: SA-Strongly Agree=5; Agree=4; U-Undecided=3; D-Disagree =2; SD-Strongly Disagree=1

Statement	**SA**	**A**	**U**	**D**	**SD**
Students are oriented to undertake online learning					
Students are taken through mechanism of accessing learning materials (modules, e-Library, Digital Repositories, e-Books and journals)					
Students were taken through mechanism of attending online lessons					
Students are shown how to engage in e-Learning activities (discussions, chats, forums)					
Students are shown how to upload their work (CATs, class assignments, homework)					
Students are shown how to do on-line tests/assignments					
Students who require support are identified					
The University operates a call center which assists students in need					
Seminars/workshops are organized regularly to assist students update e-Learning skills					
Guidance and Counselling services are provided to students to help them balance academic work and psycho-social well-being					

Section G: Students' Academic Achievement

1. Kindly indicate in the table below your achievement (mean grades) in the Kiswahili courses that you have taken in the current academic year.

Year	**Course taken**	**Mean grade of the class (A, B, C, D, F)**	
		Semester 1	**Semester 2**
2021	Course 1		
	Course 2		
	Course 3		
2022	Course 1		
	Course 2		
	Course 3		

Thank you for filling the questionnaire

APPENDIX IV

INTERVIEW SCHEDULE FOR ODeL DIRECTORS

Section A: Background Information

1. (i)How long have you been the Director of the ODeL center?

ii) How long has the e-Learning program been running in your University?

Section B: The Relationship between Use of e-Resources and Kiswahili Language Students' Achievement.

1. a)What are some of the e-Resources available in your institution for:

   i) Teaching?

   ii) Learning?

b) Who is responsible for the Management of programs and content in ODeL center?

c) What is the rate adequacy of e-Resources available?

d) What is the frequency of use of e-Learning resources?

e) What are some of benefits and challenges in using e-Learning resources?

Section C: The Relationship between Adoption of e-Assessment and Kiswahili Language Students' Achievement.

1. a) Name the modes of assessment used by the lecturers, in your University.

b) Are e-Assessment facilities available in your institution as well as skilled staff?

c) Briefly explain the frequency of use of e-Assessment.

d) Briefly highlight benefits and challenges of using e-Assessment and give a suggestion for improvement.

Section D: The Relationship between Utilization of Learning Management System (LMS) and Kiswahili language Students' Academic Achievement.

1. Kindly confirm if LMS is available in your institution as well as skilled staff to operate it?
2. Briefly explain the utilization of LMS in the following areas:
    i. Management of programmes (e.g. receiving applications, registering students, maintain records, etc.)
    ii. Content management (preparation and uploading of contents, modules, learning materials by lecturers
    iii. Content delivery (lecturers, chats, discussions, e-Learning activities).
    iv. Students' interaction with the LMS (accessing and uploading materials, learning materials,)
    v. Assessment (tests, assignments, examinations)
    vi. LMS as a communication tool (students/lecturers/University management)
    vii. Benefits, challenges of LMS and give suggestion for improvement.

Section E: The relationship between Provision of e-Learning Support Services and Kiswahili Language Students' Academic Achievement.

1. Briefly explain provision of e-Learning support services in the following areas:

i)Orientation of students on online learning

ii). Accessibility of learning materials by the students (modules, e-Library, Digital Repositories, e-Books and journals)

iii) Students' attendance to online lessons

iv. Engagement of e-Learning activities (discussions, chats, forums)

v. Uploading of assignments and CATS

vi. Identification of students who need e-Learning support

vii. Guidance and counseling services offered to students on academic work

Section F: Students' Academic Achievement in Kiswahili Language

1. Briefly explain students' achievement trends before and after inception of e-Learning programme.

Thank you, Director, for accepting to be interviewed

APPENDIX V

PROPOSED WORK PLAN

Activity/ Time	**Jan 2021**	**Feb-Sept 2021**	**Dec 2021**	**Sept 2022**	**Oct 2022**	**Nov 2022**	**2023**	**Jan-October 2024**
Developing research proposal	■							
Proposal Writing		■						
Departmental Defense			■					
School Defense				■				
Clearance from Machakos University					■			
Clearance permit for research from NACOSTI/ CUE and Data Collection						■		
Field work, Data Analysis							■	
Write up, defense/ Submission/ Sharing findings								■

Source: Researcher (2024)

APPENDIX VI

BUDGET FOR THE STUDY

NO	ITEM	Cost	Quantity	AMOUNT
1	**Development of research proposal**			
	i. Transport to Library	1000	20	20,000/-
	ii. Typing and printing	5000	4	20,000/-
	iii. Proofreading and Binding	5000	4	20,000/-
2.	**Fieldwork**			
	i) NACOSTI permit	2000/-	1	2,000/-
	i. Transport to Machakos University	1000	4	4,000/-
	ii. Transport to Murang'a University	5000/-	4	20,000/-
	iii.) Transport to CUEA	5000/-	4	20,000/-
	iv)Printing of Questionnaires and interview schedules	5000/-	-	5,000/-
	v. Conferences and Seminars/ consulting experts	100,000	-	100,000/-
3.	**Data Analysis**			
	i.) Statistical Package for Social Sciences (**SPSS**) analysis of data.	109,000/-	-	109,000/=
4.	Thesis writing/ Write up/Binding	80,000/-	-	80,000/-
	TOTAL			**400,000/-**

Source: Researcher (2024)

APPENDIX VII

LETTER OF DATA COLLECTION AUTHORISATION-MACHAKOS UNIVERSITY

MACHAKOS UNIVERSITY
OFFICE OF THE REGISTRAR
(RESEARCH, INNOVATION AND LINKAGES)

Telephone: +254 – (0)799 086 901/(0)735 24793939
E-mail: dvc-ril@mksu.ac.ke
Website: www.mksu.ac.ke

P.O. Box 136-90100
Machakos
KENYA

REF: MksU/RIL/1/13/VOL.II

30th November, 2022

Ms. Elizabeth Welu Kiamba
P. O. Box 2085-90100
MACHAKOS

Dear Ms. Kiamba,

RE: DATA COLLECTION AUTHORIZATION FOR PHD RESEARCH PROJECT

Reference is made to your communication dated 24th November, 2022 requesting for authorization to collect data for your PhD research project, *'The Relationship between E-Learning and Kiswahili Language Students' Achievement in Selected Universities in Kenya'*. We are pleased to inform you that your request has been approved.

On completion of the study, you will submit a soft copy of the data collected and a hard copy of the final research report to the undersigned

Yours faithfully,

REGISTRAR-RESEARCH, INNOVATION & LINKAGES P. O. Box 136 - 90100, MACHAKOS MACHAKOS UNIVERSITY 1 9 NOV 2022

PROF. STANLEY M. MAKINDI, PH.D.
AG. REGISTRAR (RESEARCH, INNOVATION AND LINKAGES)

APPENDIX VIII
LETTER OF DATA COLLECTION AUTHORISATION-MURANG'A UNIVERSITY

MURANG'A UNIVERSITY OF TECHNOLOGY

Office of the Registrar
(Administration & Planning)

Cell: +254-0771370824
E-mail: registrar-ap@mut.ac.ke
Website: www.mut.ac.ke

P.O. Box 75 - 10200
Murang'a, Kenya

REF: MUT/EXT. COMM/REG-A&P/25/2022.VOL.1 **DATE:** 6TH JULY, 2023

Elizabeth Welu Kiamba
P.O. Box 2085-90100,
Machakos

Dear Ms. Kiamba,

RE: PARTICIPATION IN ACADEMIC RESEARCH

Reference is made to your letter dated 16th December, 2022 ref EWK/OI/2022 on the above subject matter.

Your request to undertake research on **"The relationship between E-learning and Kiswahili Language Students' achievement in selected Universities in Kenya"** has been granted.

Kindly treat the information you will obtain in strict confidence and thereafter share the findings of your study with us for information purposes.

Kindly liaise with the Director of Open, Distance and E-learning (ODeL).

Yours Sincerely,

DR. PEACE B. AGUFANA, PhD.
REGISTRAR, A&P

APPENDIX IX
LETTER OF DATA COLLECTION AUTHORISATION-THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

Office of the Deputy Vice Chancellor
ACADEMIC AFFAIRS & RESEARCH

Our Ref: DVC/AA&R/RG/esm/003/2022

16th January 2023

Elizabeth Welu Kiamba
Machakos University
Reg. No. E83-2750-2018
Email: kiambaelizabeth@yahoo.com

Dear Elizabeth,

RE: Permission to Conduct Research at The Catholic University of Eastern Africa (CUEA)

Greetings in the Mighty Name of our Lord and Savior Jesus Christ!

I am glad to inform you that your request to conduct research on the topic: ***"The Relationship between E-Learning and Kiswahili Language Among Students' Achievement in Selected Universities in Kenya",*** has been granted. You are therefore authorized to collect data from the targeted participants at The Catholic University of Eastern Africa. You are expected to strictly observe the normal ethical cautions and discretions while conducting the research.

I wish you well with your study and I look forward to you sharing your findings with the Directorate of Research and Innovation of the The Catholic University of Eastern Africa.

Sincere regards

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA
THE DEPUTY VICE CHANCELLOR ACADEMIC AFFAIRS & RESEARCH
16 JAN 2023

Mrs. Prof. Rachel K. Gesami, PhD, MBS
Deputy Vice Chancellor/Academic Affairs & Research

CC *Directorate of Research and Innovation*

APPENDIX X

RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **220205**

Date of Issue: **10/November/2022**

RESEARCH LICENSE

This is to Certify that Ms.. ELIZABETH WELU KIAMBA of Machakos University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Machakos, Muranga, Nairobi on the topic: THE RELATIONSHIP BETWEEN E-LEARNING AND KISWAHILI LANGUAGE STUDENTS' ACADEMIC ACHIEVEMENT IN SELECTED UNIVERSITIES IN KENYA for the period ending : 10/November/2023.

License No: **NACOSTI/P/22/21723**

220205

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

APPENDIX XI

A MAP SHOWING MACHAKOS, MURANGA AND NAIROBI COUNTIES

Source: Google Maps