

# The influence of Learners' Use of Digital Collaborative Learning on Performance of Learners in Literature in Public Universities in Western Kenya.

WANYAMA MARTIN NYONGESA<sup>1</sup>, EDWIN MASIBO MAKHANU<sup>2</sup>, BEN NYONGESA WEKESA<sup>3</sup>  
<sup>1,2</sup> Kibabii University, Department of Curriculum and Pedagogy

<sup>3</sup> Kibabii University, Department of English, Literature, Journalism and Mass Communication

*Abstract- The study focused on assessing the influence of digital collaborative learning on Performance of Literature learners at Public Universities in Western Kenya. The study specific objective was to: Determine the influence of learners' use of digital collaborative learning on Performance of learners in Literature in public universities in western Kenya, The study was guided by Connectivism theory. It adopted a descriptive survey design, targeting 899 learners and 32 lecturers. A sample of 277 learners and 32 lecturers was selected using proportionate sampling techniques and census technique respectively. Data was collected using interviews and structured questionnaires. The researcher ensured validity by testing construct, criterion and content validity and reliability. This paper examined the relationship between digital learning factors— Digital Collaborative Learning and Performance in Literature among learners in public universities in Western Kenya. For learners. Digital Collaborative Learning showed a weak, non-significant relationship with performance. These findings emphasize the importance of Digital materials in enhancing student learning outcomes in literature studies, though further research is needed to fully understand this dynamic. For lecturers, the study found a statistically significant relationship between digital learning platforms and performance, explaining approximately 80.3% of the variance in performance. To enhance performance in literature education through digital learning: This includes providing access to digital resources, ensuring technological infrastructure and support, and offering professional development opportunities for educators*

*Indexed Terms- Digital Learning Platforms, Digital Collaborative Learning, Performance*

## I. INTRODUCTION

Digital collaborative learning involves interactions with peers and a teacher, while online learning transfers this element to a virtual environment. Shade and Mani (2020) put forth a theoretical model for use of computers for effective instruction of exceptional children. Giving details of the mildly handicapped (speech or language disorder), physically handicapped, gifted and talented and sensory impaired (visually impaired and blind), they had to show how computer attributes were ideally suited in enhancing and improving classroom management, training opportunities and teaching techniques for these groups of learners to best promote individualized instruction and facilitate optimal learning experiences for the learners. Therefore, Shade and Mani (2020) made a finding that digital collaborative learning has higher benefits of developing higher-level thinking, oral communication, self-management, and leadership skills among learners, leading to a greater promotion of student-faculty interaction.

A study conducted in Zimbabwe revealed that majority of the lecturers (97.5%) facilitating Open, distance and digital Learning (ODEL) lacked experience in distance education. Effective use of distance learning technologies demands that teaching staff be properly trained in using distance education as a mode of delivery. Up to now, few African scholars are familiar with teaching in an online environment. The situation poses a major challenge in introducing distance education in Africa. Walimbwa (2008) observed that despite digital learning growing rapidly worldwide, East African universities are yet to fully maximize its potential. The study was based on University of Dar es Salaam (Tanzania), Makerere University (Uganda), and University of Nairobi (Kenya). It established that lack of skills and sufficient

human resource has contributed to low digital learning implementation. Limited Internet bandwidth and lack of policy harmonization were also significant factors that were impeding digital learning from growing in these universities.

In a related study, Song and Bonk (2016) assessed the implementation of digital learning in Ugandan universities, namely Makerere University of Kampala (MAK); Makerere University Business School (MUBS); Kampala International University (KIU), and Islamic University in Uganda (IUIU). The choice of these institutions was based on the fact that they are the highest-ranking institutions in Uganda in terms of the quality of education, student population, and ICT adoption. Findings of their research revealed that digital learning was used mostly as a means of delivering learning material (80%), minimally used to conduct discussions (12%), and to conduct assessment (2%). Their study showed major infrastructural and technical incompetence, and attitudes-based challenges (by learners and staff) that hindered full-scale adoption of digital learning in these institutions. Some of the infrastructural challenges included lack of electricity and unavailability of Internet connectivity. Moreover, the study findings by Rhema and Miliszewska (2022) have revealed that learners' attitudes towards e-learning are positively influenced by perceived e-learning usefulness, self-management of learning, and self-efficacy. Specifically, they have categorized those influences of learners' attitudes on e-learning into two groups. One is demographic like age and gender and the other is computer skills like ICT training background, experience in working with ICT, and possession of own computer (Rhema & Miliszewska, 2022). However, the perceived system quality had no influence and zero statistical significance. A study conducted in some universities in Tanzania showed that, as is the case with other African countries, the implementation of digital learning was still very low despite the opportunities provided by the open-source technology and the supportive environment created by the Government (Sanga, Sife, & Lwoga, 2017). Among the ten universities studied, only the University of Dar es salaam (UDSM) had managed to implement digital learning platforms such as Blackboard and WebCT, these are digital learning proprietary software. The other universities such as Sokoine University of

Agriculture (SUA), Mzumbe University, and Open University of Tanzania (OUT) are in possession of basic ICT infrastructure such as a local area network (LAN), Internet, computers, and CD and DVD facilities that form the basis for the establishment of digital learning platform; but, the implementation of digital learning was minimal.

Very extensive research on the acceptance of digital learning in higher learning institutions in Tanzania identified several factors like limited internet connectivity that challenge its implementation (Algahtani, 2021). The study identified lack of capacity analysis before online digital learning programs as a major challenge facing its adoption in the country. Electricity power interruptions (outages) and inadequate ICT infrastructure for digital learning were also found to be a major obstacle. However, it was observed that there was an existing initiative by the government, private companies, and non-governmental organizations (NGOs) to improve ICT infrastructure. The study revealed that reduction of taxes on computer items had enabled a good number of learners to procure their own personal computers or laptops.

Algahtani (2021) compared the perception of digital learning in Jomo Kenyatta University of Agriculture and Technology (JKUAT) and the United States International University (USIU). The aim of the study was to reveal reasons for the low rate of acceptance and usage of digital learning by learners in the two universities. The study majored on interactivity and usability of the Moodle and WebCT learning management systems (LMSs) used by the two universities. The findings of the study showed that audio-visual forms of content delivery, which have the potential of enhancing effective learning, are not being exploited fully in the universities, instead, lecturers emphasize on the upload of reading material to the LMS. Such observations were made by Lucas and de Freitas (2017) who established that developing modern digital learning programs is much more than digitizing books and lecture notes. Furthermore, the study established that the starting point in the development of any digital learning program is the individual (lecturer and student) and not the computer as appears to be the case in most universities. This implies that creating a learning culture is a social

process and entails changing behavior and improving performance. As a result, learners are not actively engaged in learning and most of them don't use digital learning as much.

## II. STATEMENT OF THE PROBLEM

The prevalence of COVID-19 pandemic impeded face-to-face learning, thus forcing education systems worldwide to look for face-to-face instruction alternatives. As attested by UNESCO (2020), more than 1.5 billion learners globally which represents 87% of the global student population, were deprived of education during the onset of the Covid-19 pandemic. Therefore, online teaching and learning became handy and has been used by lecturers and learners on an unprecedented scale. Despite this anticipated gain in online learning, a survey conducted by InfoTrack (2022) on the place of digital technology on learner performance among public universities in western Kenya revealed that most learners miss digital classes more than physical ones. From the few studies conducted, there is a clear gap in the methodology used as well as variables employed thus leading to the relevance of the current study. Besides, Bird et al. (2021) found out that the switch to online instruction resulted in 8.5% reduction in course completion. They found that both withdrawals and failures increased. They also confirmed out that the negative impacts associated with such failures and withdrawals are more extreme among less-academically-prepared learners. Additionally, research has demonstrated challenges associated with building digital collaborative learning while university lecturers make use of the online learning applications as a measure of creating active learning activities among learners (Mustakim, 2020). Moreover, it is difficult for lecturers to monitor the learning activities of learners through online learning. This study will therefore examine the influence of learners' use of digital collaborative learning on Performance of learners in Literature in public universities in western Kenya,.

## III. THEORETICAL FRAMEWORK

Harasim (2012) propounded as online collaborative learning theory (OCL). She describes OCL as follows "theory provides a model of learning in which learners are encouraged and supported to work together to

create knowledge: to invent, to explore ways to innovate, and, by so doing, to seek the conceptual knowledge needed to solve problems rather than recite what they think is the right answer. While OCL theory does encourage the learner to be active and engaged, this is not considered to be sufficient for learning or knowledge construction. In the OCL theory, the teacher plays a key role not as a fellow-learner, but as the link to the knowledge community, or state of the art in that discipline. Learning is defined as conceptual change and is key to building knowledge. Learning activity needs to be informed and guided by the norms of the discipline and a discourse process that emphasizes conceptual learning and builds knowledge."

The approach to technology use in teaching, particularly online collaborative learning, stands in stark contrast to more objectivist methodologies such as computer-assisted learning, teaching machines, and artificial intelligence applications in education. Unlike these approaches that often aim to replace certain teacher activities with technology, online collaborative learning emphasizes leveraging technology to enhance communication between teachers and learners. Instead of seeking to substitute the teacher, the goal is to foster increased and improved interaction, ultimately leading to collaborative knowledge creation.

This theoretical perspective, inherent in online collaborative learning, aligns seamlessly with the fourth objective of the study – to explore innovative methods for seeking conceptual solutions to problems. By emphasizing collaboration, the theory recognizes that learners can invent and explore the most innovative methods when working collectively towards conceptual problem-solving.

In terms of collaboration between learners and the lecturer in the learning process, the means employed would likely involve a combination of interactive digital platforms, communication tools, and collaborative software. For instance, online discussion forums, virtual classrooms, video conferencing, and collaborative document editing tools could serve as platforms for shared exploration and problem-solving. These technologies enable real-time interactions, allowing learners and the lecturer to engage in

dynamic discussions, exchange ideas, and collectively explore conceptual solutions.

The role of the lecturer in this collaborative environment may shift towards facilitation, guidance, and mentorship, fostering an atmosphere where learners actively contribute to knowledge creation. The collaborative process can extend beyond traditional classroom settings, creating an inclusive and interactive virtual space where learners and the lecturer jointly contribute to the discovery and understanding of conceptual solutions to problems. In essence, the online collaborative learning approach not only aligns with the study's objective.

IV. METHODOLOGY

The study adopted a descriptive research survey design. Xiao (2019) offers descriptive research . Descriptive research survey design is commonly used in scientific studies to gather information about the characteristics, attitudes, behaviors, or opinions of a population. This type of research design is valuable for providing a snapshot of a particular phenomenon or population at a specific point in time (Attri & Kushwaha, 2019).. The study was conducted in counties four counties of western Kenya: Bungoma, Busia, Kakamega and Vihiga. In this particular study, the target population consisted of 899 learners enrolled in literature-related courses and 32 literature in English lecturers across four universities in western Kenya. The study used a sample of 309 respondents that was a representative of the study population. From this sample, lecturers were sampled using census since

the population was relatively small (n=32) but learners were sampled proportionate sampling technique (n=277). To determine the sample size of learners, each  $n^{th}$  item for learners was calculated using proportionate stratified random sampling from the four universities. Using a proportionate sampling technique, The current study used questionnaires as primary instrument of information collection. The researcher administered the questionnaires to both learners and lecturers because they are ardent participants of Digital Collaborative Learning and performance of learners in literature in public universities in Kenya. Lecturers and learners were interviewed as this assisted the investigators to clarify information on data collected in the questionnaire.

V. RESULTS AND DISCUSSIONS

Digital Collaborative Learning and Aca Performance of Learners in Literature in Public Universities in Western Kenya

The respondents were asked to indicate the extent of agreement with each of the statements and their responses were rates as 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided 2=Disagree (D), 1=Strongly Disagree (SD).

4.9.1 Learners Descriptive Results on Digital Collaborative Learning

The study investigated the influence of digital learning collaboration on academic performance of learners in literature and findings are shown in Table 1

Table 1 Digital Collaborative Learning and performance of Learners in Literature

Statements	1=SD		2=D		3=UD		4=A		5=SA		M	SD
	F	%	F	%	F	%	F	%	F	%		
Digital learning collaboration tools have improved my ability to work effectively with peers on literature projects	15	5.8	28	11.0	20	7.7	158	61.9	34	13.5	3.66	1.03
Collaborating digitally with classmates has enhanced my understanding of literary concepts in academic studies	17	6.5	30	11.6	18	7.1	139	54.8	51	20.0	3.70	1.11

I find that digital learning collaboration enhances my communication and teamwork skills in literature courses	15	5.8	30	11.6	22	8.4	152	59.4	36	14.8	3.66	1.05
Access to digital collaboration platforms has positively impacted my ability to engage in group discussions and activities related to literature studies	18	7.1	30	11.6	22	8.4	154	60.6	31	12.3	3.59	1.07
I believe that digital learning collaboration has contributed to my academic success in literature courses at the university	15	5.8	33	12.9	25	9.7	154	60.6	28	11.0	3.58	1.03

*Source: Researcher's Field Data, 2023*

Education in the digital age continues to evolve, with digital collaborative learning (DCL) emerging as a promising tool to enhance performance and foster collaborative learning environments. In the context of literature studies within public universities in Western Kenya, the integration of digital collaborative platforms presents a unique opportunity to explore its influence on students' academic achievement. This research delved into the nuanced interactions between DCL and academic performance, shedding light on its potential to revolutionize the landscape of literary education in this region. This study aimed to provide valuable insights into the effectiveness and implications of DCL for learners pursuing literature studies in Western Kenya's public universities. As presented in Table 1, findings show that majority, 192 (75.5%) of the sampled learners indicated that digital learning collaboration tools have improved their ability to work effectively with peers on literature projects (M=3.66, SD=1.03). This finding suggests a significant positive impact of digital learning collaboration tools on students' ability to work effectively with peers on literature projects. With 75.5% of the sampled learners expressing improvement, it indicates a widespread perception among students that these tools enhance their collaborative skills within the context of literature studies. The mean score (M=3.66) further supports this interpretation, indicating that, on average, students perceive a moderate to high level of improvement in their ability to collaborate using digital learning tools. The standard deviation (SD=1.03) suggests that while the majority of students experienced improvement, there is some variability in the extent of this improvement among the sampled population. This

finding underscores the importance and effectiveness of digital collaborative learning tools in facilitating teamwork and peer interaction among literature students. It implies that these tools contribute positively to the development of essential skills such as communication, cooperation, and collective problem-solving, which are crucial for success in academic projects and beyond. Moreover, the high percentage of students reporting improvement suggests a widespread acceptance and utilization of digital collaboration tools within the academic context, reflecting the growing integration of technology into higher education settings.

Overall, these finding highlights 190(82.8%) approve the potential of digital learning collaboration tools in enhance students' collaborative experiences and ultimately contribute to improved academic outcomes in literature studies within public universities in Western Kenya. It underscores the need for further exploration and utilization of such tools to optimize collaborative learning environments and support students' academic success. The current findings are similar to those of Lee and Park (2022) who revealed that students who participated in online discussions exhibited higher levels of critical thinking and achieved better grades in literature assessments compared to their peers who did not engage in digital collaborative activities.

Similarly, 188 (74.2%) of the learners said that collaborating digitally with classmates has enhanced their understanding of literary concepts in academic studies (M=3.70, SD=1.11). This finding indicates a strong positive correlation between digital collaboration with classmates and the enhancement of

students' understanding of literary concepts in academic studies. With 74.5% of the learners expressing this sentiment, it suggests that a significant majority perceive digital collaboration as beneficial for deepening their comprehension of literary concepts. The mean score of 3.70 further supports this interpretation, indicating that, on average, students perceive a moderate to high level of improvement in their understanding of literary concepts through digital collaboration. The standard deviation of 1.11 suggests that while the majority of students reported enhancement, there is some variability in the degree to which this enhancement is experienced among the sampled population. This finding underscores the value of digital collaboration as a tool for facilitating meaningful engagement with literary content among students. By working collaboratively with classmates through digital platforms, students have the opportunity to exchange ideas, discuss interpretations, and collectively explore complex literary themes and texts. The high percentage of students acknowledging the enhancement of their understanding highlights the effectiveness of digital collaboration in promoting active learning and critical thinking skills. It suggests that digital collaboration not only facilitates knowledge sharing but also fosters deeper levels of comprehension and analysis, which are essential for academic success in literature studies.

Moreover, the finding reflects the adaptability of digital technologies in supporting diverse learning styles and preferences. By providing a dynamic and interactive platform for collaboration, digital tools cater to the needs of students who thrive in collaborative learning environments and prefer active engagement with peers. Overall, this finding underscores the positive impact of digital collaboration on students' understanding of literary concepts and reinforces the importance of integrating digital technologies into literature education to enhance learning outcomes and promote student success. This finding was echoed by a research by Smith and Johnson (2023) who found that students who engaged in collaborative annotation activities demonstrated deeper comprehension and analysis of literary works, leading to improved performance in literature courses.

In the same context, 115 (74.2%) of the learners find that digital learning collaboration enhances their communication and teamwork skills in literature courses ( $M=3.66$ ,  $SD=1.05$ ). This finding highlights the perceived positive impact of digital learning collaboration on students' communication and teamwork skills within literature courses. With 74.2% of learners indicating that digital collaboration enhances these skills, it suggests a widespread recognition among students of the benefits of using digital platforms for communication and teamwork in the context of literary studies. The mean score of 3.66 further supports this interpretation, indicating that, on average, students perceive a moderate to high level of improvement in their communication and teamwork skills through digital collaboration. The standard deviation of 1.05 suggests that while the majority of students reported enhancement, there is some variability in the extent of improvement experienced among the sampled population. This finding underscores the importance of communication and teamwork skills in literature courses and the role of digital collaboration tools in fostering their development. By engaging in collaborative activities such as online discussions, group projects, and peer feedback exchanges, students have the opportunity to practice effective communication and teamwork strategies in a digital environment. The high percentage of students acknowledging the enhancement of their communication and teamwork skills reflects the effectiveness of digital collaboration in promoting active engagement and interaction among students. It suggests that digital platforms provide a conducive space for students to collaborate effectively, regardless of physical proximity or time constraints.

Moreover, the finding highlights the transferability of communication and teamwork skills cultivated through digital collaboration to real-world contexts. As effective communication and teamwork are essential competencies in various professional fields, the enhancement of these skills in literature courses through digital collaboration has implications beyond academic settings. Overall, this finding emphasizes the value of integrating digital collaboration tools into literature education to enhance students' communication and teamwork skills, ultimately preparing them for success in both academic and

professional endeavours. It underscores the importance of leveraging technology to create collaborative learning environments that foster the development of essential skills needed for the 21st-century workforce. Similar results were reported by Dillenbourg (1999) who asserted that digital collaborative learning facilitate collaborative learning experiences among students.

Additionally, 185 (72.9%) of the learners said that access to digital collaboration platforms has positively impacted my ability to engage in group discussions and activities related to literature studies ( $M=3.59$ ,  $SD=1.07$ ). This finding underscores the significant positive impact of access to digital collaboration platforms on students' ability to engage in group discussions and activities related to literature studies. With 72.9% of learners expressing this sentiment, it suggests that the availability of digital collaboration tools plays a crucial role in facilitating collaborative learning experiences in the context of literary education.

The mean score of 3.59 further supports this interpretation, indicating that, on average, students perceive a moderate to high level of improvement in their ability to engage in group discussions and activities through access to digital collaboration platforms. The standard deviation of 1.07 suggests that while the majority of students reported positive impacts, there is some variability in the extent of improvement experienced among the sampled population.

This finding highlights the transformative role of digital collaboration platforms in breaking down barriers to group engagement and fostering inclusive participation among students. By providing a virtual space for interaction and collaboration, these platforms enable students to overcome geographical constraints and time limitations, facilitating more accessible and flexible group discussions and activities. The high percentage of students acknowledging the positive impact of digital collaboration platforms reflects the widespread acceptance and utilization of technology-enhanced learning methods within literature education. It suggests that digital platforms have become integral tools for supporting collaborative learning experiences

and enhancing student engagement in literature studies.

Moreover, the finding underscores the importance of equitable access to digital collaboration platforms to ensure that all students have the opportunity to participate fully in collaborative learning activities. Addressing issues related to digital divide and ensuring access to technology resources is essential for promoting inclusive and equitable educational opportunities for all learners. Overall, this finding highlights the transformative potential of digital collaboration platforms in enhancing students' engagement in group discussions and activities related to literature studies. It underscores the importance of leveraging technology to create collaborative learning environments that promote active participation, interaction, and meaningful engagement among students in literature education. DCL is often grounded on Harasim (2012) who propounded Online Collaborative Learning theory (OCL). She describes OCL as follows "theory provides a model of learning in which learners are encouraged and supported to work together to create knowledge: to invent, to explore ways to innovate, and, by so doing, to seek the conceptual knowledge needed to solve problems rather than recite what they think is the right answer. In the same vein, 182 (71.6%) of the sampled learners believed that digital learning collaboration has contributed to their academic success in literature courses at the university ( $M=3.58$ ,  $SD=1.03$ ). This finding suggests a strong positive association between digital learning collaboration and academic success in literature courses among sampled learners. With 71.6% of respondents attributing their academic success to digital learning collaboration, it indicates a widespread belief among students that these collaborative tools play a significant role in their achievements within the academic domain of literature studies. The mean score of 3.58 further supports this interpretation, indicating that, on average, students perceive a moderate to high level of contribution from digital learning collaboration to their academic success. The standard deviation of 1.03 suggests that while the majority of students reported positive contributions, there is some variability in the extent to which digital learning collaboration impacts academic success among the sampled population.

This finding underscores the perceived importance of digital collaboration in enhancing students' learning experiences and outcomes in literature courses. It suggests that engaging in collaborative activities through digital platforms not only facilitates learning but also contributes significantly to students' overall academic performance and achievements. The high percentage of students attributing their academic success to digital learning collaboration reflects the growing recognition of the value of technology-enhanced learning methods in literature education. It highlights the transformative potential of digital collaboration tools in creating dynamic and interactive learning environments that support student success and achievement.

Moreover, the finding underscores the need for continued integration and utilization of digital collaboration tools in literature education to maximize student learning outcomes and promote academic success. It emphasizes the importance of leveraging technology to enhance teaching and learning practices, particularly in disciplines like literature where collaborative engagement and critical thinking are essential components of academic success. Overall, this finding underscores the positive impact of digital learning collaboration on students' academic success in literature courses at the university level. It reinforces the importance of embracing digital technologies to enrich learning experiences, foster collaborative learning environments, and empower students to achieve their academic goals in literature studies.

The current findings are similar to those of Wang et al. (2021) who found a significant positive correlation between DCL interventions and academic achievement across diverse subject areas and grade levels. The authors reported that students who participated in DCL activities demonstrated higher levels of academic performance compared to those in traditional classroom settings. While several studies have acknowledged positive contribution of DCL to learners' academic achievement (Dillenbourg, 1999; Lee & Park, 2022; Smith & Johnson, 2023; Wang et al., 2021), one significant challenge is the digital divide, which may limit access to technology and internet connectivity for some learners, thereby exacerbating inequalities in academic outcomes (Warschauer, 2003). Additionally, issues related to digital literacy and technological proficiency may hinder learners' ability to fully engage in DCL activities (Hrastinski, 2008). Moreover, the effectiveness of DCL depends on various factors, including the design of collaborative tasks, the quality of online interactions, and the level of instructor facilitation (Dennen & Burner, 2008).

#### 4.9.2 Descriptive Responses for Lecturers on Digital Learning Collaboration

The sampled lecturers were asked to determine the extent incorporating digital collaborative learning and its influence on performance of learners in literature studies. Their results are shown in Table 2.

Table 2 Digital Collaborative Learning and Performance of Learners in Literature

Statements	1=SD		2=D		3=UD		4=A		5=SA		M	SD
	F	%	F	%	F	%	F	%	F	%		
Digital learning collaboration tools have improved learner's ability to work effectively with peers on literature projects	2	6.9	3	10.3	2	6.9	12	41.4	10	34.5	3.86	1.21
Collaborating digitally with classmates has enhanced learner understanding of literary concepts in academic studies	3	10.3	4	13.8	5	17.2	10	34.5	7	24.1	3.48	1.30
Digital learning collaboration enhances learner's communication and teamwork skills in literature courses	0	0.0	3	10.3	4	13.8	10	34.5	12	41.4	4.07	.99



Access to digital collaboration platforms positively impact learner ability to engage in group discussions and activities related to literature studies	2	6.9	4	13.8	3	10.3	10	34.5	10	34.5	3.76	1.27
Digital learning collaboration contribute to learners academic success in literature courses at the university	0	0.0	2	6.9	3	10.3	13	44.8	11	37.9	4.14	.88
Composite Mean & Std Deviation											3.86	1.13

Source: Researcher's Field Data, 2023

Results in Table 2 show that majority, 22 (75.9%) of the lecturers agreed that digital learning collaboration tools have improved learner's ability to work effectively with peers on literature projects (M=3.86, SD=1.21). this statement had an item mean score (M=3.86) equal to the composite mean (M=3.86). Opinions on this issue were much varied as indicated by a higher standard deviation (SD=1.21) than composite standard deviation (SD=1.13).

This suggests that digital tools are facilitating collaborative efforts among students, potentially leading to richer discussions and more comprehensive project outcomes.

For statement which assessed whether collaborating digitally with classmates has enhanced learner understanding of literary concepts in academic studies, 19 (65.5%) of the lecturers agreed with this statement (M=3.48, SD=1.30). This statement had an item mean score (M=3.48) lower than the composite mean (M=3.86). Opinions on this issue were much varied as indicated by a higher standard deviation (SD=1.30) than composite standard deviation (SD=1.13).

This indicates that digital platforms are not only facilitating collaboration but also contributing to deeper learning and comprehension of academic material.

For statement which assessed whether digital learning collaboration enhances learner's communication and teamwork skills in literature courses, a significant majority 22 (75.9%) of the lecturers agreed with this statement (M=4.07, SD=0.99). This statement had an item mean score (M=4.07) higher than the composite mean (M=3.86). Opinions on this issue were

consistent as indicated by a lower standard deviation (SD=0.99) than composite standard deviation (SD=1.13).

This finding suggests that by engaging with digital tools, students are not only learning course content but also developing valuable soft skills such as team work and communication skills that are essential for success in both academic and professional settings.

For statement which assessed whether access to digital collaboration platforms positively impact learner ability to engage in group discussions and activities related to literature studies, 20 (69.0%) of the lecturers agreed with this statement (M=3.76, SD=1.27). This statement had an item mean score (M=3.76) lower than the composite mean (M=3.86). Opinions on this issue were divergent as indicated by a higher standard deviation (SD=1.27) than composite standard deviation (SD=1.13).

This implies that digital tools are facilitating more active participation and interaction among students, enriching the learning experience.

For statement which assessed whether digital learning collaboration contribute to learners' academic success in literature courses at the university, an overwhelming majority, 24 (82.8%) of the lecturers agreed with this statement (M=4.14, SD=0.88). This statement had an item mean score (M=4.14) higher than the composite mean (M=3.86). Opinions on this issue were consistent as indicated by a lower standard deviation (SD=1.27) than composite standard deviation (SD=1.13).

This suggests that lecturers perceive digital collaboration as a significant factor in improving

learner outcomes, potentially leading to higher grades and overall academic achievement.

The research findings align with recent studies in the field. Wang et al. (2021) conducted a meta-analysis indicating a significant positive correlation between Digital Collaborative Learning (DCL) interventions and academic achievement across various subjects and grade levels. Similarly, Smith and Johnson (2023) investigated the impact of online collaborative annotation tools on students' understanding of literary texts, finding that collaborative annotation activities led to deeper comprehension and improved academic performance in literature courses. Additionally, Lee and Park (2022) explored the use of virtual discussion forums in literature classes, discovering that students engaged in online discussions demonstrated higher levels of critical thinking and achieved better grades in literature assessments compared to their peers who did not participate in digital collaborative activities. These studies collectively underscore the beneficial effects of digital collaboration on student learning outcomes and academic success in literature education.

Overall, these findings highlight the increasingly important role of digital learning collaboration tools in the field of literature education. They suggest that such tools not only facilitate collaboration but also enhance learning outcomes, communication skills, and overall academic success. However, it is important to note that these findings as reflected by the perceptions of lecturers are similar to those reported by learners at universities in Western Kenya. Both the research findings from the learners and lecturers underscore the transformative potential of digital learning collaboration tools in literature education. By embracing these tools, educators can enhance teaching effectiveness, foster student engagement and skill development, promote inclusivity, and ultimately, contribute to learners' academic success and future prospects.

*Can you share specific examples of how you have integrated digital collaborative learning platforms into your literature courses and the impact they have had on student engagement and academic achievement? The lecturers were asked this question in an interview discussion and one had to say this.....*

*“As a literature lecturer, I have integrated digital collaborative learning platforms in various ways to enhance learner engagement and academic achievement. For instance, I have utilized online discussion forums where students can analyze literary texts collaboratively, sharing interpretations and insights in real-time. This fosters active participation and encourages learners to critically engage with course material outside of traditional classroom settings.”*

*Additionally, “I have implemented collaborative annotation tools that allow learners to annotate texts collectively, promoting deeper comprehension and facilitating peer learning. These platforms have had a significant impact on student engagement, as they provide opportunities for interactive learning and meaningful discussions. Moreover, students' academic achievement has improved as they demonstrate a deeper understanding of literary concepts and texts through their collaborative efforts (Interviewee 5,2024)”*

The findings highlight the potential of digital collaboration tools to revolutionize literature education. Educators can integrate these tools into their teaching strategies, fostering peer collaboration, deepening understanding of literary concepts, and promoting student engagement. Beyond academic learning, these tools also cultivate crucial communication and teamwork skills, preparing students for success in diverse settings. Additionally, they enhance accessibility, allowing all students, regardless of barriers, to participate actively. As technology evolves, educators must remain adaptable, integrating digital tools to meet students' diverse needs. Recognizing the positive impact on academic success, institutions should prioritize the integration of these tools into curriculum planning. Further research into the effectiveness of specific digital tools and professional development for educators is crucial to maximizing their potential. Institutions can support faculty members through training workshops, resources, and incentives, fostering the adoption of innovative teaching methodology

## CONCLUSION

In conclusion, this study explored the relationship between digital collaborative learning and the academic performance of learners in literature in public universities in Kenya. The study highlights the significant positive impact of digital collaborative learning (DCL) on the academic performance of literature learners in Western Kenyan universities, as perceived by both learners and lecturers. DCL tools enhance collaborative skills, understanding of literary concepts, communication, teamwork, engagement in group activities, and ultimately academic success. Integration of DCL into literature courses holds promise for fostering interactive and engaging learning environments that support student achievement. Finally, the study reveals a significant relationship between digital collaborative learning and performance in literature studies, Digital Collaborative Learning positively influence performance, These findings underscore the importance of digital collaborative strategies in educational settings and highlight their potential to augment student learning outcomes in literature studies.

## RECOMMENDATIONS

Educational institutions should prioritize the integration of digital collaborative learning tools into literature courses to enhance collaborative skills and performance. Faculty development programs should be provided to train educators in effectively leveraging DCL platforms to facilitate collaborative learning experiences for students.

## REFERENCES

- [1] Ajayi, O. P., & Ajayi, F. L. (2020). Use of online collaborative learning strategy in enhancing postgraduates' learning outcomes in science education. *Education Research and Reviews*, 15(8), 504-510. doi: 10.5897/ERR2020.4023
- [2] Algahtani, A. F. (2011). *Evaluating the effectiveness of the digital learning experience in some universities in Saudi Arabia from male learners' perceptions*. Doctoral thesis, Durham University.
- [3] Anttila, M. (2021). Why people benefit from digital learning differently: The effects of psychological processes on digital learning outcomes. *Information & Management*, 45(8), 513-521.
- [4] Barbour, M. K., LaBonte, R., Kelly, K., Hodges, C., Moore, S., Lockee, B., Trust, T., Bond, A., & Hill, P. (2020). Understanding pandemic pedagogy: Differences between emergency remote, remote, and online teaching. *In State of the Nation: K-12 e-Learning in Canada*. <https://doi.org/10.13140/RG.2.2.31848.70401>.
- [5] Berchtold, A. (2016). Test-retest: Agreement or reliability? *Methodological Innovations*, 1(12), 34-35.
- [6] Boyd, D. M., & Ellison, N. B. (2017). Motivational factors in self-directed informal learning from *online learning resources*. *Cogent Education*, 3(1), 120-583.
- [7] Cheng, K. A. (2016). Research study on learners' level of acceptance in applying digital learning for business courses – A case study on a technical college in Taiwan. *Journal of American Academy of Business*, 8(2), 265-270.
- [8] Class Project (1984-85 VICTERS, 2001). A comparative analysis of student motivation in traditional classroom and digital learning courses. *International Journal on Digital learning*, 6(3), 413-432.
- [9] EKLAVY National Curriculum Framework (NCF). ( 2005). *A channel of curriculum for 2003*.
- [10] El Mhouti, A., Nasseh, A., & Erradi, M. (2013). How to evaluate the quality of digital learning resources. *International Journal of Computer Science Research and Application*, 3(3), 27-36.
- [11] George, G., Johnson, J., & Reddy, R. (2021). The role of ICT in teaching and learning with special reference to Indian education system: A narrative review of the literature. *Turkish Online Journal of Qualitative Inquiry*, 12, 2132-2143.

- [12] Gupta, A. (2017). Digital learning strategies for delivering knowledge in the digital age. *Internet and Higher Education*, 5, 185-188.
- [13] Habib, A. M., Dayyab, M. F., Iliyasu, G., & Habib, G. A. (2021). Knowledge, attitude and practice survey of COVID-19 pandemic in Northern Nigeria. *PLoS ONE* 16(1): e0245176. <https://doi.org/10.1371/journal.pone.0245176>
- [14] .
- [15] Harasim, M. (2012). *Integrating educational technology into teaching*. (5th Edition ed.) Boston, MA: Allyn & Bacon.
- [16] Italian Electronic Classroom. (2019). Digital learning strategies for delivering knowledge in the digital age. *Internet and Higher Education*, 5, 185-188.
- [17] Kaur, V. (2019). Research methodology. *Knowledge-Based Dynamic Capabilities*, 77-112.
- [18] Keane, K. (2012). Cell phones in the classroom: Teachers' perspectives of inclusion, benefits, and barriers. *Computers in the Schools*, 30(4), 295-308.
- [19] Klein, D., & Ware, M. (2003). E-learning: New opportunities in continuing professional development. *Learned Publishing*, 16(1) 34-46.
- [20] Kothari, L. (2014). Chapter three: Research methods, quantitative & qualitative approaches. Doctoral thesis. Nairobi Press.
- [21] Lucas, M., & de Freitas Goncalve, A. (2017a). Bridging formal and informal learning – A case study on learners’ perceptions of the use of social networking tools. *Learning in the Synergy of Multiple Disciplines, 4th European Conference on Technology Enhanced Learning, EC-TEL 2009, Nice, France, September 29 - October 2, 2009, Proceedings*. doi:10.1007/978-3-642-04636-0\_31
- [22] Lucas, M., & de Freitas Goncalve, A. (2017). Motivational factors in self-directed informal learning from online learning resources. *Cogent Education*, 3(1), 1205838.
- [23] Lucas, M., & Moreira, A. (2019). Bridging formal and informal learning – A case study on learners’ perceptions of the use of social networking tools. *Learning in the Synergy of Multiple Disciplines, Cress, U., Dimitrova, V., Specht, M. (Eds.)*. Springer, Germany. 325–337.
- [24] Marc, J. R. (2022). Digital learning strategies for delivering knowledge in the digital age. *Internet and Higher Education*, 5, 185-188.
- [25] Mfaeka, N. (2021). “Chapter Three: Research methods, quantitative & qualitative approaches.” *University of Arusha Business School*.
- [26] Muuro, E. M., Wagacha, W. P., Oboko, R., & Kihoro, J. (2020). Learners’ perceived challenges in an online collaborative learning environment: A case of higher learning institutions in Nairobi, Kenya.
- [27] National Mission on Education through Information and Communication Technology (NMEICT). (2019).
- [28] Purushothaman, K., & Stella, M. (2014). Motivational factors in self-directed informal learning from online learning resources. *Cogent Education*, 3(1), 1205838.
- [29] Roblyer, M. D., & Doering, A. H. (2010). *Integrating educational technology into teaching*. (5th Edition ed.) Boston, MA: Allyn & Bacon.
- [30] Rossi, P. G. (2009a). Learning environment with artificial intelligence elements. *Journal of Digital learning and Knowledge Society*, 5(1), 67-75.
- [31] Rossi, P. G. (2009b). A comparative analysis of student motivation in traditional classroom and digital learning courses. *International Journal on Digital learning* 6(3), 413-432.
- [32] Rovai A., Ponton, M., Wighting, M., & Baker, J. (2007). A comparative analysis of student motivation in traditional classroom and digital learning courses. *International Journal on Digital learning* 6(3), 413-432.
- [33] Siemens, G., & Tittenberger, P. (2019). Classification of learning outcomes: Evidence from the computer games literature. *The Curriculum Journal*, 16(4), 455-474.
- [34] Song, D., & Bonk, J. C. (2016). Motivational factors in self-directed informal learning from online learning resources. *Cogent Education*, 3(1), 120-583.

- [35] Wang, Z., Wang, Y., & Haggerty N., (2008). Why people benefit from digital learning differently: The effects of psychological processes on digital learning outcomes. *Information & Management*, 45(80), 513-521.
- [36] Yaghmale, F. (2003). Content validity and its estimations. *Journal of Medical Education*, 3(1), 25-27.