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Original Research Article

Perception and Readiness of Undergraduate Education Students for Online Learning During the COVID-19 Pandemic at Umma University, Kenya

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Abstract

The COVID-19 pandemic led to a rapid shift in educational delivery worldwide, with online learning becoming the primary mode of instruction. This study investigates the perception and readiness of undergraduate education students toward online learning during this period at Umma University, Kenya. The study was guided by the Technology Acceptance Model (TAM) and employed a descriptive research design. The target population consisted of third- and fourth-year Bachelor of Education (B.Ed.) students at Umma University, with a sample size of 105 students selected through stratified random sampling. Data were collected using a structured questionnaire, which was pilot-tested to refine items and improve reliability and validity. To ensure the robustness of the data, content and construct validity assessments were conducted, along with reliability testing using Cronbach's alpha. The analysis involved both descriptive and inferential statistics. The findings indicate that students at Umma University generally held positive perceptions towards the online learning platform used during the COVID-19 pandemic. They found online learning beneficial for their studies, particularly in terms of enhancing digital skills and flexibility. Students expressed confidence in their ICT knowledge, which eased their use of the platform, but also faced technical

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challenges such as connectivity issues, signal loss, and sound clarity during live sessions. Results further indicated strong positive correlation ($r = 0.824$, $\rho < 0.05$) between students' perceptions and their readiness for using the online learning platform. This relationship implies that students who perceive the platform as effective, accessible, and user-friendly are more likely to feel prepared and confident in using it. To address the technical challenges reported by students, Umma University should consider investing in reliable internet infrastructure and bandwidth management solutions.

Keywords: **COVID-19 Pandemic, Online Learning, Perception, Readiness, Undergraduate Students, Education, Technology Acceptance Model, Higher Education**

Introduction

Over the past two decades, rapid advancements in ICT, particularly in internet accessibility and digital tools, have reshaped educational methodologies, moving towards more student-centered, interactive, and flexible learning environments (Ananga & Biney, 2017). The invention of the World Wide Web in 1992 and subsequent inventions in technology made online learning increasingly accessible and opened a new chapter in teaching and learning methodologies (Harasim, 2017; Kentnor, 2015). United Nations Education Scientific and Cultural Organization (UNESCO) believes that education is a human right for all throughout life and that access must be matched by quality (McCowan, 2011). However, higher education institutions worldwide have been faced with enormous challenges in terms of providing for increased enrolment, while containing or reducing costs (Marginson, 2016). New developments in higher education ranging from virtual universities and cross-border education to e-learning, blended learning and open educational resources, all point at the efforts by various stakeholders to address the challenges they face in increasing provision to education (Anderson & International Institute for Educational Planning, 2005). This development was compounded by the outbreak of the deadly coronavirus (COVID 19) which emerged in December 2019 in Wuhan province of China and which threatened to spread to the entire world (Enitan et al., 2020; Abd El-Aziz & Stockand, 2020). The World Health Organization in a response to the developments declared it a global pandemic on March 11th 2020 (World Health Organization, 2020). The implications of the coronavirus pandemic saw the abrupt shutting down of education institutions by governments, students and staff were directed to vacate campuses and total lockdowns were instituted in various regions in order to curb further infections (Crawford et al., 2020; Fasae, Adekoya & Adegbilero-Iwari, 2021). Over 1.5 billion students

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in 195 countries across the world were affected by the economic lockdowns and closure of educational institutions due to covid-19 pandemic (UNESCO, 2020). Consequently, these measures disrupted the traditional ongoing face to face school calendars leaving authorities bewildered on how to address the situation. Some institutions particularly in developing countries were caught unprepared by the new challenges owing to the fact that they were either in the initial stages of rolling out online infrastructure or they had not trained their students and staff effectively to fully depend on internet for teaching and learning (Mwale & Chita, 2020; Dzingirai, Sebele-Mpofu & Kandufa, 2022). Consequently, integrating e-learning technologies into traditional modes of learning become one of the priorities for higher education institutions particularly in the wake of the COVID-19 pandemic. However, considerable concerns and challenges have developed, particularly as it relates to the learner preparedness, competencies, quality, and institutional capacity to administer online education (Ferri, Grifoni & Guzzo, 2020). While in general, internet-based learning is considered an option and an alternative to traditional learning, during the Coronavirus pandemic it became a key element for maintaining the activity of schools and universities (Ibrahim, Gusau & Uba, 2022). This paradigm shift was bound to generate changes in students' perception of the methodologies in teaching and learning different from the ones found in earlier studies prior to the pandemic.

E-learning offers significant benefits, including flexibility, student-centered learning, and improved interaction through tools like email, forums, and videoconferences (Coman et al., 2020; Omona, 2022; Dzakırıa, Don & Rahman, 2012). It also allows for widespread content distribution, giving students control over their learning pace and enabling them to tailor the process to their needs (Colchester et al., 2017). However, challenges such as decreased motivation, delayed feedback, and a sense of isolation can hinder the effectiveness of E-learning for some students. Research highlights that readiness for online learning encompasses factors such as digital literacy, accessibility to technological devices, and students' attitude toward the mode of delivery (Mosa et al., 2016; Kim, Hong & Song, 2019. Students' readiness and their positive perception are key for the successful adoption and continued use of online education (Tang et al., 2021).

In Kenya, universities quickly shifted to remote learning during the COVID-19 pandemic, yet this transition was hindered by challenges impacting students' readiness and perception (Wekullo, Kabindio & Juma, 2024). While online learning offered a necessary alternative, students often struggled with inadequate internet connectivity, limited access to digital devices, and varying levels of digital literacy (Jepkemei & Munyao, 2022; Osabwa, 2022). These constraints not only created barriers to engagement but also highlighted a digital divide, where students' socioeconomic backgrounds played a

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significant role in determining their access and ability to participate effectively in online learning (Ngwacho, 2020). Furthermore, the psychological readiness of students was equally vital. Research shows that students who lack familiarity with digital platforms and online learning tools are more likely to experience anxiety and reduced motivation, which negatively impacts their learning outcomes (Yu, 2022). Familiarity with technology and confidence in using digital tools are essential for student engagement, particularly in fully online environments, where direct support may be limited (McKnight et al., 2016). This is especially relevant for Kenyan students, who may have had minimal prior exposure to comprehensive online learning systems, as many universities were only beginning to integrate such technologies before the pandemic. Tanjung and Utomo (2021) reported that students' perceptions of online learning are influenced by factors such as the availability of digital resources, their level of self-discipline, and their familiarity with e-learning platforms. The transition to online learning thus requires not only technological readiness but also psychological readiness, where students' confidence and motivation play essential roles. Prior to the pandemic, at Umma University, the use of E-learning platform was scarce. Teachers were using the platform basically to upload course material from where the students would access for reference purposes. The onset of the COVID-19 pandemic and subsequent abrupt closure of the university in March, 2020 caught the staff and students by surprise. Most students were unfamiliar with online learning platforms, faculty were in the process of developing course modules and the department of open, distance and e-learning had just been set up in February 2020. It is against this background that this study intends to investigate undergraduate school of education student's perception, level of conversant, readiness, skills and challenges regarding online programs during the Covid-19 pandemic at Umma University, Kenya.

Theoretical Foundation

Several theories have been proposed to explain consumers' acceptance and intention to use new technologies, including the Theory of Diffusion of Innovations (Rogers, 1995), Technology Acceptance Model (TAM) (Davis et al., 1989), and Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). TAM was developed by Fred Davis in 1986 and is based on the idea that our attitudes towards technology are shaped by two key factors: perceived usefulness and perceived ease of use (Rogers, 1995). Perceived usefulness refers to the extent to which we believe that using a technology will enhance our performance or achieve our goals, while perceived ease of use refers to the degree to which we believe that using a technology will be effortless and straightforward. The goal of Davis' (1989)

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TAM is to explain the general determinants of computer acceptance that lead to explaining users' behaviour across a broad range of end-user computing technologies and user populations. The basic TAM model included and tested two specific beliefs: Perceived Usefulness (PU) and Perceived Ease of Use (PEU). Perceived Usefulness is defined as the potential user's subjective likelihood that the use of a certain system (e.g: single platform E-payment System) will improve his/her action and Perceived Ease of Use refers to the degree to which the potential user expects the target system to be effortless (Davis, 1989). The belief of the person towards a system may be influenced by other factors referred to as external variables in TAM. The final version of Technology Acceptance Model was formed by Venkatesh and Davis (1996) after the main finding of both perceived usefulness and perceived ease of use were found to have a direct influence on behaviour intention, thus eliminating the need for the attitude construct. TAM, help in understanding how students perceive and adopt online learning technologies. During the pandemic, students' perceptions of the ease and effectiveness of online learning platforms directly influenced their willingness and ability to engage with digital learning tools. Studies like that of Al-Emran and Shaalan (2020) have shown that positive perceptions of online learning platforms correlate with higher acceptance and use of such technologies among students. Consequently, institutions need to foster a supportive learning environment that facilitates positive perceptions and prepares students adequately for online learning.

Methodology

The study employed a descriptive survey research design, which enabled the researchers to document existing conditions without analyzing relationships among variables within the studied conditions. Descriptive research, as defined by Toven-Lindsey (2015), addresses questions such as "what is" or "what was," in contrast to experimental research that seeks to answer "why" or "how." This approach has the advantage of allowing researchers to summarize data meaningfully through numeric indices or graphical representations, providing a clear depiction of the data. The target population consisted of 142 third- and fourth-year Bachelor of Education (B.Ed.) students at Umma University. Yamane (1967) sample size formula was used to calculate a sample size of 105 students. Students were selected through stratified random sampling to ensure representation across the two years. Students were selected through stratified random sampling to ensure representation across both academic years. Data were collected using a structured questionnaire, which was pilot-tested with approximately 10% of the 10 students. To ensure the robustness of the data, content and construct

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validity assessments were conducted, along with reliability testing using Cronbach's alpha. A Cronbach's alpha coefficient of 0.874 was obtained, suggesting high reliability, as values above 0.70 are generally considered acceptable, with values closer to 1.0 indicating greater internal consistency (Tavakol & Dennick, 2011). This strong reliability coefficient demonstrates that the research instrument used in the study is consistent in measuring the intended variables, thereby enhancing the credibility and dependability of the collected data. After data collection in October 2022, the information was coded into Statistical Package for Social Sciences (SPSS) version 26. Both descriptive and inferential statistics were used to analyze the data.

Results and discussions

Demographic Information of Respondents

The study sought to find out the demographic information such as the gender, residential home and year of study, age and subject combination the students interviewed. The responses are in the Table 1.

As indicated in the table below, a majority of the respondents 66 (62.9%) were female while 39 (37.1%) were male. The observed gender distribution indicated higher enrollments from the female section of the students within the program and can be interpreted to show perhaps a more favorable perception toward online learning across this demographic.

There were slightly more students from urban backgrounds 56(53.3%), while 49(46.7%) came from rural areas. This almost equal division shows that both rural and urban students participated in this study, and therefore it can give an extensive view of how residential environment might affect online learning readiness. The responding participants were majorly fourth-year students, 88 (83.8%), while the remaining 17 (16.2%) were third-year students. This is reflected in the higher number of fourth-year students in our sample, which could indicate a more mature cohort, hence perhaps even greater experience and adaptability with online learning.

The largest age group was that of 22 years, constituting 38 (36.5%), this was followed by 21 years, with 32(30.5%), then 23 years with 23(21.9%). Other smaller age groups were those aged 19, 20, 24, and 25 years. This reflects a typical undergraduate age range for the majority concentrated in their early twenties, which might be more adaptable to digital learning environments.

The combination of subjects that led the list was English and Literature 41(39%), Mathematics and Business with 16 (15.2%) and then there was Kiswahili and History with 14 (13.3%). Other combinations that were not so

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frequent included IRE, Geography/ Business, History/ IRE amongst others since these subject areas had relatively fewer representations.

Table 1: Demographic Information of the Respondents

Variables	Demographic information	Frequency	Percentage
Gender	Male	39	37.1
	Female	66	62.9
Residential Home	Rural	49	46.7
	Urban	56	53.3
Year of Study	Third	17	16.2
	Fourth	88	83.8
Age	19 years	1	1
	20 years	3	2.9
	21 years	32	30.5
	22 years	38	36.5
	23 years	23	21.9
	24 years	6	5.7
	25 Years	2	1.9
Subject combination	IRE	1	1
	Kiswahili/Geo	2	1.9
	History/ IRE	2	1.9
	IRE/Arabic	4	3.8
	IRE/ Kiswahili	8	7.6
	Geo/Business	7	6.7
	Math/Geo	10	9.5
	Math/ Business	16	15.2
	Kiswahili History	14	13.3
	English/ Literature	41	39

Students Perception Towards Online Learning Platform Used by The University During Covid-19 Pandemic

The respondents were given several statements on the perception towards online learning platform used by Umma university during Covid-19 pandemic to rate the extent to which they agree with the statements on a scale of 1-5 where 1= strongly agree, 2= agree, 3= neutral, 4= disagree and 5= strongly disagree.

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Table 2: Perception Towards Online Learning Platform used by Umma university during Covid-19 pandemic

Statement	SA	A	NS	DS	SD	Mean	Stdv
I believe online learning was very useful to me during this Covid-19 period	29	54	3	10	9	2.2	1.19
I believe that the features of online learning were very easy to use	17	39	17	24	8	2.69	1.21
I feel that online learning helped me to improve on my digital skills	48	40	7	7	3	1.83	1.01
There was significant academic improvement in my study through e-learning	29	38	5	26	7	2.47	1.3
I think I would prefer online learning method over face-to-face class room method	38	42	12	18	4	2.19	1.16
I would be very much at ease in using online learning facilities over face to face.	27	50	16	9	3	2.15	0.99
Online learning led to considerable reduction in my financial expenses over face-to-face method	26	39	9	25	6	2.49	1.25
With ICTs, online learning provided lots of flexibility over face-to-face method	23	51	7	14	10	2.4	1.23
Online learning system can solve the present COVID-19 challenges of teaching.	35	46	5	15	4	2.11	1.13

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According to Table 2, majority of students agreed that they believe online learning was very useful to me during this Covid-19 period (Mean=2.2, SD=1.19). They also agreed that features of the online learning platform were very easy to use (Mean=2.69, SD=1.21). Students also strongly agreed that online learning helped them improve their digital skills (Mean=1.83, SD=1.01). They also agreed that there was significant academic improvement in my study through e-learning (Mean=2.47, SD=1.3). Majority also preferred online learning method over face-to-face class room method (Mean=2.19, SD=1.16), while they also agreed about feeling comfortable using online learning facilities (Mean=2.15, SD=0.99), indicating most students were at ease with online platforms. Financial considerations students agreed that online learning reduced their expenses compared to face-to-face learning (Mean=2.49, SD=1.25). Furthermore, flexibility provided by online learning, supported by ICTs, received agreement (Mean=2.4, SD=1.23). Finally, most students believed that the online learning system could address COVID-19 teaching challenges (Mean=2.11, SD=1.13). The agreement on the platform's user-friendly features aligns with findings by Al-Maroof and Al-Emran (2018), who suggest that ease of use fosters greater engagement with technology. Martin et al. (2020) also observed that online platforms enhance technical competencies, critical for student readiness in digital learning environments.

Students' Readiness Towards Using Online Learning Platform During the Covid19 Period

The students were asked to rate the extent to which they agreed with the following statement on readiness towards using online learning platform during the Covid19 period on a scale of 1-5 where 1= strongly agree, 2= agree, 3= neutral, 4= disagree and 5= strongly disagree.

Students agreed (Mean=2.6, SD=1.32) that they had sound knowledge of ICT to operate on any online learning platform. Additionally, they agreed (Mean=2.44, SD=1.35) that with their good knowledge of the internet, using the online learning platform was not a problem. Students also agreed (Mean=2.36, SD=1.35) that their general web browsing skills made using the online learning platform easy. The availability of sound electronic devices necessary for registering for online classes was positively rated (Mean=2.37, SD=1.29). However, students also agreed (Mean=2.7, SD=1.37) that access to good internet broadband presented more challenges, indicating potential connectivity issues. In addition, students agreed that Mean=2.41, SD=1.34) they had regular power supply to support online learning while students agreed that they did not face significant distractions during online learning (Mean=2.29, SD=1.19).

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Table 3: Students Level of Readiness Towards Using Online Learning Platform During the Covid19 Period

Statements	SA	A	NS	DS	SD	Mean	Std. Dev
I had sound knowledge of ICT to operate on any online learning platform	22	38	9	20	11	2.6	1.32
With my good knowledge of the internet, using online learning platform was not be a problem	31	33	12	14	12	2.44	1.35
With my good knowledge in general web browsing/surfing, using online learning platform was easy	36	34	5	21	9	2.36	1.35
I have a sound electronic device (computer/smartphone) required to register for an Online learning class	35	29	15	19	7	2.37	1.29
I had access to good internet broadband to get me connected to an online learning class	23	37	6	26	13	2.7	1.37
I had regular power supply to support my online learning class	32	38	5	20	10	2.41	1.34
I did not face any form of distraction in using online learning during this Covid-19 period	30	43	10	16	6	2.29	1.19

The findings suggest that students' confidence in their ICT skills and internet literacy played a role in enabling them to navigate the online learning platform effectively. This aligns with Heinrich, Darling-Aduana & Martin, (2020), who emphasize that students with stronger digital skills are more likely to adapt successfully to online learning environments. Such skills reduce the cognitive load associated with navigating digital platforms, allowing students to focus more on their studies and less on technical challenges (Al-Maroof & Al-Emran, 2018). However, the persistent challenge of reliable internet access points out a key limitation. Studies in Kenya, have shown that while students may possess the necessary devices and skills, the infrastructure needed to

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support continuous, high-quality online learning often lags (Wekullo et al., 2024). This "digital divide," particularly in terms of internet broadband connectivity, can hinder student engagement and performance, as reliable access is essential for accessing real-time resources and participating in synchronous activities (Coman et al., 2020).

Students' Skills and Proficiency for Engaging with Online Learning Platforms during COVID-19 crisis

The respondents were asked the skills and competencies/proficiency did you possess for using online learning platform at Umma university during Covid-19 pandemic on a scale of 1-4 where VP= Very Proficient; P= Proficient; FP=Fairly Proficient; NT=Not Proficient. The responses are in the table 4 below.

Table 4: Students' Skills and Proficiency for Engaging with Online Learning Platforms during COVID-19 pandemic

ICT Statements	VP	P	FP	NP
Basic computer skills (e.g. typing and editing)	32	50	20	1
Advanced computer skills (Internet use)	23	45	32	3
Managing multimedia contents skills (power point, keynote)	21	43	29	6
Using the Web for education skills (Screen recording)	27	47	29	1
Using online tools in education skills: Video chat (e.g., Skype) Web Video (e.g., YouTube)	34	40	24	7
Designing online contents skills (Google Drive, forums)	30	39	32	4
Online communication skills: Social Media (e.g. Facebook, Twitter, E-mail)	20	41	43	0
Use of electronic resources (e.g OPAC, database)	29	50	25	1
Time management	40	40	39	3

The findings in Table 4 reveal that students at Umma University generally demonstrated proficiency in the skills required for online learning platforms during the COVID-19 pandemic. A substantial portion of respondents indicated proficiency (P) and very proficient (VP) ratings across various competencies. Basic computer skills, such as typing and editing, were highly rated, with 32 students marking very proficient and 50 proficient. Time management also showed strong ratings, with 40 students each reporting as very proficient and proficient. However, skills related to online communication via social media showed a broader distribution, with 20 students marking very proficient, 41 proficient, and 43 as fairly proficient. Competency in advanced and specialized tasks, like managing multimedia content or designing online

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content, showed proficiency but with a slightly wider range, suggesting areas for potential development.

Students' familiarity with Tools Provided in the Online Learning Platform

Respondents were further asked if they were conversant with using the tools provided in the online learning platform. Results are illustrated in figure 1 below.

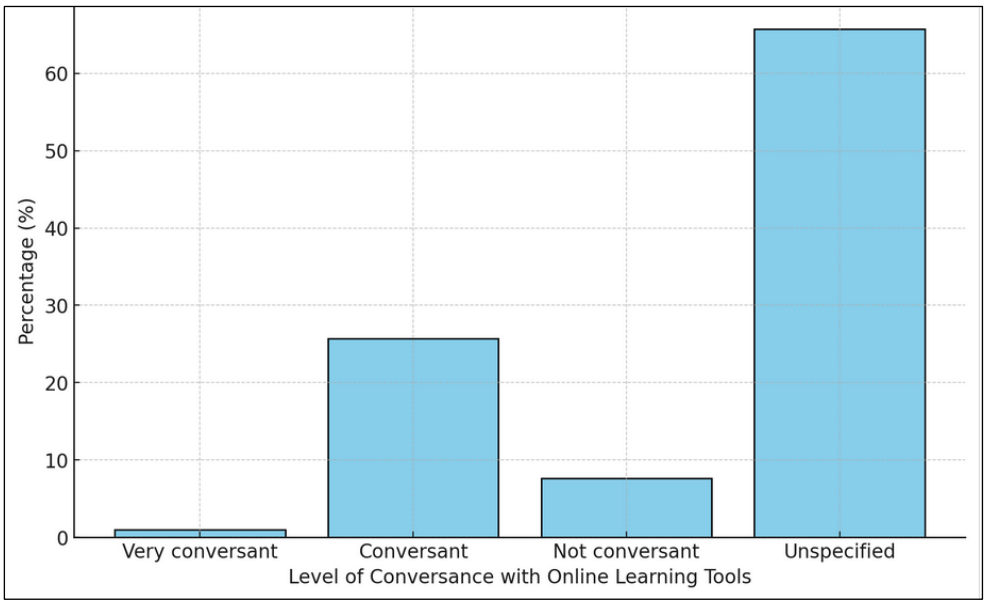

Figure 1: Students level of conversance with online learning tools at Umma university during COVID-19 pandemic

The findings indicate that a majority of respondents (69%) did not specify their level of familiarity with the tools provided in the online learning platform. Among those who did, 27% reported being conversant with these tools, while 8% were not conversant. Only a small proportion, 1%, considered themselves very conversant with the platform's tools. This suggests that while some students felt equipped to use the online tools, a significant number may not have actively engaged or did not have a clear understanding of their proficiency with the platform's resources.

Students' Perception of Umma University's Management of Online Learning During the COVID-19 Pandemic

Further, respondents were asked to rate perception about the way Umma University managed to provide online knowledge during the COVID 19 pandemic on a scale of 1-6. The responses are presented in the table 5 below.

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Table 5: **Students' Perception of Umma University's Management of Online Learning During the COVID-19 Pandemic**

Which were the difficulties that you encountered while the courses/seminar were developed online	VF	F	NF	NR	R	NA	Mean	SD
Difficulties while connecting to the platform	20	32	23	5	21	4	2.88	1.5
Losing signal during videoconferences	12	38	23	12	12	8	2.98	1.44
Delayed visualization of messages communicated on the platform	11	25	29	9	18	13	3.35	1.56
The sound is not clear (there are interruptions)	12	31	22	9	15	16	3.3	1.64

Key: VF=Very frequently, F-Frequently, NF-Not Frequently, NR-Nor Rarely, NA-Not at All

Majority of study indicated that they frequently (Mean=2.88, SD=1.5) had difficulties while connecting to the platform (Mean=2.88, SD=1.5), lost signal during video conferences (Mean=2.98, SD=1.44). Also, most student indicated that they did not frequently have delayed visualization of messages communicated on the platform (Mean=3.35, SD=1.56) and lastly, they reported that they often encountered issues with unclear sound, experiencing frequent interruptions (Mean=3.3, SD=1.64). In Kenya, studies have consistently highlighted connectivity issues as a primary barrier to effective online learning, particularly in rural areas and regions with underdeveloped infrastructure. Munene (2023) found that unreliable internet access severely hampered students' ability to engage with digital platforms, especially in synchronous activities like video conferences, which require stable, high-speed internet. Similarly, Okuto (2023) noted that frequent signal interruptions and sound issues during online classes led to frustration among students and disrupted the flow of learning, as many institutions lacked the resources to provide technical support or upgrade digital infrastructure.

The study further evaluated additional difficulties that students encountered while participating in online courses and seminars. The majority reported significant challenges related to cost constraints, which limited their ability to engage fully with online learning resources. Poor network connectivity was another major issue, often disrupting their learning experience. Students also faced difficulties with logging into the platform, indicating usability or access issues. Furthermore, constraints around limited

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time and space were commonly noted, as students struggled to find adequate time and a suitable environment to concentrate on their studies effectively.

Availability of Various Means of for Teaching Online Courses/Seminars on the E-learning platform

The study also asked the respondents to rate the extent to which they agreed with the following statement on availability of various means for teaching online courses/seminars on the E-learning platform. Their responses are summarized in table 6 below.

Table 6: Availability of various means of for teaching online courses/seminars on the E-learning platform

Statement	NA	R	NR	NF	F	VF	Mean	Stdv
Audio conference	13	23	2	42	12	10	3.46	1.51
Video conference	10	36	12	27	18	2	3.12	1.35
Documents posted on the platform (Word, Pdf, PowerPoint)	0	35	17	11	23	9	3.52	1.43
Forum discussions	1	16	28	36	14	7	3.66	1.13
Chat discussions	3	40	23	15	19	5	3.21	1.32
URL addresses (to other web sources)	16	36	12	17	15	19	3.31	1.71
Glossary of terms	10	27	18	23	11	15	3.41	1.55
Course audio-video registered sequences	1	45	14	12	26	7	33.36	1.43
Tasks in word/pdf format (that only the teacher could see)	2	23	43	13	10	11	3.38	1.28
Task posted in databases (that were seen by the entire class)	7	18	10	33	21	15	3.85	1.47
Documents where the whole class could work on in the same time	11	37	14	24	12	7	3.1	1.43

Key: VF=Very frequently, F-Frequently, NF-Not Frequently, NR-Nor Rarely, NA-Not at All

The analysis of Table 6 shows the availability and frequency of various teaching resources on Umma University's E-learning platform during online courses and seminars. Forum discussions were the most frequently available resource (Mean=3.66, SD=1.13), followed closely by tasks posted in databases

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accessible to the entire class (Mean=3.85, SD=1.47). Resources such as audio conferences (Mean=3.46, SD=1.51), documents posted on the platform (Mean=3.52, SD=1.43), and course tasks in word or PDF format for teacher access (Mean=3.38, SD=1.28) also showed moderate availability. On the lower end, video conferencing (Mean=3.12, SD=1.35) and chat discussions (Mean=3.21, SD=1.32) were less frequently accessible. The variability in responses, especially for URLs to other web sources (SD=1.71) and glossary of terms (SD=1.55), indicates diverse student experiences in accessing these tools. This data highlights a range of resource availability, suggesting areas for improvement in providing consistent access to essential tools across the E-learning platform. Muuro (2014) found that forum discussions and shared tasks are commonly accessible resources across Kenyan universities, as they require lower bandwidth and are relatively easy to manage within limited digital infrastructure. This aligns with Umma University's platform, where forum discussions provided consistent interaction opportunities, supporting collaborative learning without the heavy demand on internet speed that other tools require.

The respondents were asked whether the start times and breaks during online courses and seminars were respected, given the course schedule. A majority, 67%, reported that the schedules were indeed respected, suggesting that most sessions started on time and included appropriate breaks. However, 27% indicated that the timing was not respected, which could reflect occasional delays or lack of adherence to scheduled breaks. A small portion, 11%, either did not know or chose not to answer, indicating a minor group with no clear perception of time adherence during these online sessions. These results highlight overall satisfaction with schedule management but suggest some room for improvement in consistency.

Student perception about structure of the course content taught online

Figure 2 illustrates student perceptions regarding the balance between theoretical and practical elements in the course content delivered onlin

A significant majority, 89%, perceived the content as being more theory-based, suggesting that the online structure heavily emphasized theoretical knowledge over practical application. In contrast, only 7% felt that the content was more practical than theoretical, while another 7% believed there was an equal mix of both theory and practical tasks. A small group, representing 2%, did not specify their perception. These results indicate a predominant leaning towards theory in the online course structure, highlighting a potential area for integrating more practical components to balance learning approaches.

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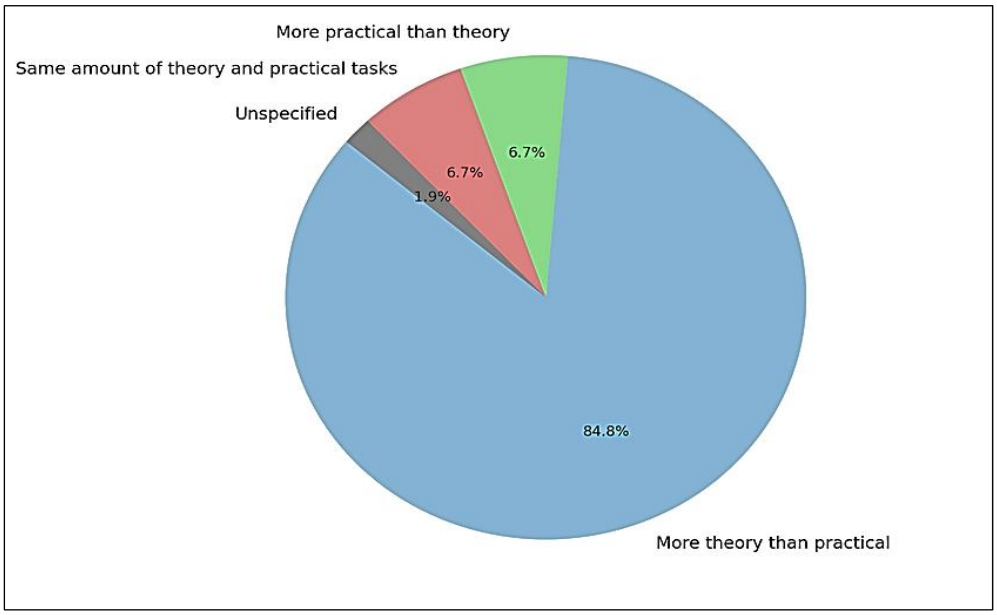

Figure 2: Student perception about structure of the course content taught online

Perception of students about the ability to learn and assimilate information in the context of exclusively online learning

Figure 3 presents student perceptions on their capacity to learn and absorb information in an entirely online learning environment. The responses are distributed across varying levels of perceived effectiveness.

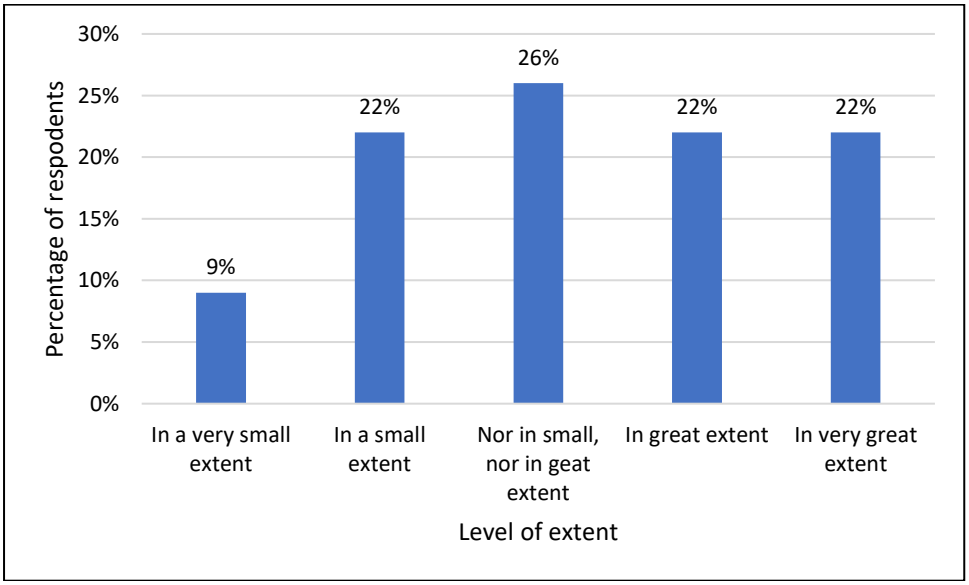

Figure 3: Students' perception of students about the ability to learn and assimilate information in the context of exclusively online learning

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A small group, 9%, felt they could assimilate information "to a very small extent," indicating a challenge in adapting to the online format. Approximately 22% felt they could learn "in a small extent," while 26% rated their ability as neutral, indicating neither a strong nor weak perception of effectiveness in online learning. Notably, 22% of respondents felt that online learning allowed them to assimilate information "to a great extent," with another 22% reporting "in a very great extent." These findings suggest mixed perceptions, with a balanced spread between students who feel positively and those who feel less confident about learning exclusively online. Most students (55.45%) preferred to offer written answers on a forum or chat, while 40.59% opted to respond live during a videoconference. A small minority (3.96%) did not know or chose not to answer. These results highlight a tendency towards written responses in online learning environments.

Students' Perceptions and Their Readiness for Using the Online Learning Platform

The study analyzed the relationships between students' perceptions and readiness using the online learning platform using Pearson correlation analysis. Results are summarized and presented in Table 4 below.

Table 4: Correlation Results

	Student Readiness	Students' Perceptions
Student readiness	1	
students' perceptions	.824**	1

***p-value < 0.05*

The Pearson correlation analysis between students' perceptions and their readiness for using the online learning platform shows a strong positive correlation ($r = 0.824$, $\rho < 0.01$). This relationship implies that students who perceive the platform as effective, accessible, and user-friendly are more likely to feel prepared and confident in using it. Al-Maroof and Al-Emran (2018) emphasized that students' perceptions of ease of use and usefulness of technology, as suggested in the Technology Acceptance Model, significantly impact their engagement and readiness for online learning.

Conclusion and recommendations

The findings indicate that students at Umma University generally held positive perceptions towards the online learning platform used during the COVID-19 pandemic. They found online learning beneficial for their studies, particularly in terms of enhancing digital skills and flexibility. Students expressed confidence in their ICT knowledge, which eased their use of the

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platform, but also faced technical challenges such as connectivity issues, signal loss, and sound clarity during live sessions. While forum discussions and shared tasks were consistently accessible, real-time interaction tools like video conferencing and chat discussions were less available, highlighting areas for improvement. The strong positive correlation between students' perceptions and readiness suggests that enhancing the usability and reliability of online platforms can increase student confidence and engagement in digital learning environments.

To address the technical challenges reported by students, Umma University should consider investing in reliable internet infrastructure and bandwidth management solutions. Providing support for low-bandwidth activities, along with partnerships with internet providers for affordable access, could improve connectivity, especially for real-time interactions, allowing more effective participation in video conferencing and chat discussions. Given the students' perception that online learning content was heavily theory-based, it is recommended that the university integrate more practical, hands-on components into the digital curriculum. This could include interactive simulations, case studies, and virtual labs, which would better balance theoretical and practical learning, enhancing students' engagement and understanding in an online setting.

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