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Accessing Online and Remote Learning Platforms in Kenyan Remote Areas During COVID-19 Pandemic

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Online learning has taken root and with the advancement in technology more and more educators are embracing online learning. During the COVID-19 pandemic, with total shut down of face-to-face learning, the Kenyan government had moved learning online and remotely. To find out on how learners in remote areas were experiencing learning during the COVID-19 pandemic, a study was carried out using rapid ethnography design. Five final year secondary students were sampled. Data was collected through interviews, observations, and document analysis. This paper reports on the findings of online and remote learning platforms, which were available, accessed, and preferred by the learners in remote areas of Kenya during the pandemic. It also highlights the importance of e-learning platforms in addressing learning experiences and success.

Keywords: online platforms, digital learning, emergency learning, digital literacy, education technology

Introduction

E-learning platforms are increasingly prevalent in education, serving as complementary or primary tools for learning, often acting as the only one in times of pandemics or emergencies. However, Rodrigues et al. (2013) noted that e-learning success depends on students' effort, learning styles, and behavior types, as not everyone is comfortable with computers or adaptable to change. For a better experience, how the learning content is presented and organized matters. As such, online learning platforms should be built in line with the goals, models, knowledge, and preferences of students in order to optimize their learning and provide tailored content.

This paper discusses the importance of e-learning platforms in addressing learning experiences issues and student success. However, e-learning platforms often overlook unique learning characteristics like learning style and attitude, which are crucial for effective learning (Rodrigues et al., 2013).

According to research (Montiel-Chamorro, 2018; Oliver et al., 2009; Schemidt, 2014), if one is proficient in using online and remote teaching and learning platforms, online learning can be just as effective as in-person instruction. In Kenya, there have been discussions on the quality of the content for online and remote learning, and access to learning platforms (Waihenya, 2020). Surveys by Usawa (2020) and Isbell (2020) reveal that students encounter issues with digital device accessibility as well as other infrastructure challenges. Using various

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platforms, this study gives students a voice in the entire discussion regarding their opinions, perceptions, and experiences in the hopes that the results would be applied to provide more sufficient and easily accessible materials for online and remote learning.

Research has found that online and remote learning motivated learners and gave high quality of learning opportunities (Boozer & Simon, 2020; Rodrigues et al., 2013). This is only possible if the learner is highly motivated, self-directed, disciplined, independent, and can use technology to navigate the available platforms.

Oliver et al. (2009) conducted a study to determine students' expectations for online learning and discovered that students anticipated instruction to be as face-to-face as possible. They observed an overlap in the approaches that instructors require for an online course that would not be required for in-person instruction. Additionally, they pointed out that teachers should communicate with secondary students more often because they need more reinforcement.

As technology advances, it is increasingly clear that distant and online learning will not be completely abandoned (Waihenya, 2020; World Bank, 2020a). According to Montiel-Chamorro (2018), online education is here to stay. To determine how to implement the most effective online or remote learning in Kenya after COVID-19 and beyond, educators must therefore assess how students perceive the instruction offered on the various online and remote learning platforms.

According to Montiel-Chamorro (2018), Redempta (2012), and Stern (n.d.), the main forms of online or remote learning include telecourses that are broadcast on radio or television, CD-ROM courses that require the learner to interact with static computer content, synchronous or asynchronous Internet-based courses, and mobile learning that is conducted using gadgets like phones, podcasts, and digital audio. According to Nyerere (2016), there are several different ways to provide information, including print-based correspondence, multimedia (print, audio, and video), tele-learning models (using telecommunication), and flexible (online distribution).

Nyerere (2016) stated that blended learning, online resources, videoconferencing, and text bases (textbooks and notes) are among the delivery methods utilized in Kenya. Materials from KICD platforms, radio and television classes, and social media platforms, particularly WhatsApp and SMS, are also included (Usawa, 2020).

Therefore, in this study, any learning that students engaged in that involved the transmission of learning materials in the form of text, audio, or video through electronic devices such computers, televisions, radios, and cell phones without the presence of a teacher in person was considered remote learning.

Online learning was defined for the purposes of this study as learning that occurs over the internet, whereas remote learning was any learning that occurred without a teacher being physically present.

Challenges

Poverty is a barrier to many learners, because of the relatively expensive information communication technology gadgets and internet bundles (Tarus et al., 2015). In the Usawa report (2020), only 22 out of 100 children in Kenya are accessing digital learning, and this is twice probable for children in private schools than in public schools. According to this report, public schools were not well prepared for digital learning, with less than 30% of schools having strategies to reach their learners with digital resources. Afro Barometer Survey indicates that the poor and rural households were hard hit; only a few can access the infrastructure needed for remote studies (Isbell, 2020).

Digital divide: According to Kenya Vision 2030, e-learning is seen to be a strategy to address issues of accessibility, quality, and equality in the ICT (Nyerere, 2016, p. 10). The current crisis of school closure due to

COVID-19 has shown the wide gap between policies in place and what is happening in online and remote learning. Usawa (2020) reported a clear digital divide that had created an unequal chance of accessing learning by school children. As a result, the attempts by the government to start online learning at the struck of COVID-19 may not have picked up well and further marginalized the already vulnerable poor learners. As such, while online and remote learning was the best rapid solution to the continuity of learning during school closure due to COVID-19 pandemic (Mhlanga & Moloi, 2020; World Bank, 2020a), it brought glaring reality of the digital divide and the inequality in the socio-economic set up in Africa (Hogan, 2011; Joy Nafungo, 2020; Krönke, 2020; Wachira Kigotho, 2020). Usawa report (2020) recommends that the government should try and bridge the digital divide to ensure equal access to lifelong learning.

Human interaction and contact are facilitating factor to online learners' satisfaction (Owens et al., 2009). Some studies, however, found out that in online learning human interaction is missing or inadequate (Mtebe & Raphael, 2013; Owens et al., 2009; Sit et al., 2005). And therefore, students feel isolated during online or remote learning. In a study to find out the experiences of learning online, Owens et al. (2009) noted three key issues: Learners felt isolated from the teachers and their peers; they indicated that interaction with others has a positive impact on their learning experiences. Owens and others also noted that first-time learners have difficulty navigating course content and to establish study habits and remain motivated. Other learners have insecurities and anxiety over the cost, access, and time management, which places stress on the online and remote learners as compared to face-to-face learners (Owens et al., 2009).

The main factors that influence learners' experiences on online or remote learning are: the learning pace, feedback, individual learners learning style, and the learner's digital literacy on how to navigate the digital content. Most learners who like online learning say it allows them to learn at their own pace, be independent, and accountable for their studies (Sit et al., 2005; Skordis-Worrall et al., 2015). Palmer and Holt (2009) also noted that students' experiences studying online or remotely were influenced by their confidence in their ability to interact with the gadgets and content. Naresh et al. (2015) added that learner's acceptability of e-learning depends on awareness, cost, and technological competency and prior learning experiences (Kozma et al., 2011).

From these studies, learners need to self-regulate by planning, monitoring, and revising their learning process; this is noted not to be easy for many learners. Learners, therefore, responded that they needed help and support in getting started (Sharpe & Benfield, 2005). For instance, in Sharpe and Benfield's (2005) study, students expressed frustration in navigating the course content and the fact that they face several technical hitches that are daunting. Students also reported frustration in collaborative learning, forming discussion groups and interacting with peers (Capdeferro & Romero, 2012).

This study intended to find out which platforms learners were using, because learners' interaction with the online and remote learning platforms determine the quality of their learning experiences. The learning platforms that were used by the study participants answered the study subsidiary question: What online or remote learning platforms are used by students? And why?

Methods

Research Approach and Design

The study was well suited for a qualitative technique, which, according to Rahman (2016), produces a detailed account of the "participants' feelings, opinions, and experiences". By using this method, the researcher

was able to find and analyze the significance that participants assign to remote or online learning.

In order to gain an extensive understanding of the experiences of learners, the research used a rapid ethnographic design. Millen, (2000) asserted that while ethnographic research often occurs over time, he also notes that quick ethnography is necessary to satisfy time constraints. According to Sangaramoorthy & Kroeger, (2020), quick ethnography is a crucial design when more insider information is needed for novel and little-known situations, such the closure of schools due to COVID-19 and the relocation to online and remote learning. So as to plan, develop programs and make adjustments, Isaacs, (2016) added that rapid ethnography meets the demands of today's world need for speed to study temporal phenomena (p. 92).

Location and Setting for the Study

The study was conducted in Rachuonyo South, Kenya, focusing on learners from county and sub-county schools with limited access to town-level amenities, including Internet and electricity.

Sample and Sampling Procedure

The study utilized snowballing sampling to reach participants, who were difficult to reach due to school closures. Teachers assisted in reaching participants, and suggested students who were used to reach another participant.

The study used a sample of five participants, following guidelines from Reeves et al. (2013) and Kothari (2004). The sample size should be representative, reliable, and flexible, while the scope should be limited for rapid ethnographic studies (see Table 1).

Table 1

Summary of the Participants' Profiles

Participants' pseudonym	Gender	Form	School level/category	School type
Beryl	F	4	County	Girls day & boarding school
William	M	4	County	Boys boarding
Edgar	M	4	Extracounty	Boys boarding
Lynnette	F	4	Subcounty	Mixed day
Dennis	M	4	Subcounty	Mixed day & boarding

Data Collection Methods

Sangasubana (2011) and Creswell (2009) both agreed that ethnographic studies involve observations, interviews, and document analysis. Guided by this, the study used unstructured in-depth interviews, spontaneous observation of the learning environment, videotaped interviews, and document analysis on online materials, participant notes, and schedules.

Data Analysis

The analysis of online and remote learning experiences involved transcription, re-reading, coding, and meaning generation. The process involved transcription, field notes, document analysis, and identifying new concepts. Key quotes were used to support the themes presented.

Results and Discussion

In answering the study question, what online or remote learning platforms are used by students? And why? The study identified themes around accessibility, popularity, preference, and frequency of the used platforms.

Further to the above, study findings show that the major reason for the participants engaging in online or remote learning was that the schools were closed due to the COVID-19 pandemic. They argued that they were final year students in secondary school and they saw this as an opportunity to keep abreast with their studies. Of these five students, three had structured online learning, whilst two students initiated their learning on their own. For some of the students, online learning was an extension of the school. The study explores students' use of online or remote learning platforms, focusing on accessibility, popularity, preference, and frequency. The primary reason for using these platforms was the closure of schools during the COVID-19 pandemic, with some students extending school programs or utilizing structured online learning.

Platforms Accessed by the Participants

The study found that participants utilized various learning platforms, including videoconferencing, Zoom, social media, WhatsApp, YouTube, and SMS-based platforms, as listed in Table 2.

Table 2

Platforms Accessed by Learners and the Source of Awareness

Source of awareness	Platforms	Beryl	William	Edgar	Dennis	Lynnette
Teachers	• Zoom	-	-	√	-	-
	• WhatsApp	√	√	√	-	-
	• YouTube	-	-	√	-	-
	• Print media	√	√	√	-	-
Peers	• KCSE Revision	-	-	√	-	-
	• SMS Shupavu 129	-	-	-	√	√
	• Print media	√	√	√	√	√
Siblings/family members	• Viusasa	-	√	-	-	-
	• Radio	√	√	√	√	√
	• Print media	-	√	√	-	-
Advert	• Khan Academy	-	-	√	-	-
Other	• Television	-	√	√	-	-
	• Search engines, e.g., Google	-	√	√	-	-
	• Print media	√	√	√	√	√

The most popular platforms were radio broadcast, WhatsApp, and print media, with at least three participants using them. This is due to the availability of radios in homes; this finding resonates with that of Isbell (2020) who also reports that "Household ownership of radios was high across key demographic groups" (p. 5).

WhatsApp was used by three participants whose schools had organized for online learning and also had access to digital devices. SMS Shupavu 129 was not popular due to lack of awareness. And the low standard of content as narrated by Dennis:

"So, the set books they give you portions of the set book, yes, they just summarize it, the whole book will be around 10 pages…they send it as SMS…nowadays I don't use it…they are cheating me. If I go back to school and use those answers, I'll score zero but here at home I will be confidently saying I'm good at this, I'm good at it…They give you notes but they are not quality notes; they are summary" (Interview, September 10th, 2020).

Dennis, a final year secondary school student, expressed concern about the quality of content received on a platform, rejecting it as it did not meet his exam requirements.

The study reveals that students' awareness and interaction with platforms like Zoom are influenced by their schools, particularly those where teachers initiated online classes and remote teaching.

"I used Zoom that was organized by the class teacher…The class teacher organized a meeting and organized a day to show us how to navigate Zoom" (Interview, September 10th, 2020).

Lynnette and Dennis initiated remote learning due to school closures, using print media and SMS-based platform Shupavu 129 for print and Dennis's SMS-based platform. This could explain why the two accessed the least number of online or remote learning platforms or depended on the print media.

Popular, Preferred, and Frequently Used Platforms

Popularly accessible and available platform. The study revealed 11 platforms students were aware of or used, with radio broadcasting and print media being the most popular. However, participants did not preferred radio and only randomly listened to broadcast programs. Dennis, for example, stated: "I don't even know the channel. It was a Sunday. Then my brother was listening to the radio and told me they are teaching form threes" (Interview, September 10th, 2020) while Lynette listened to "Radio Maisha on Saturday…" Edgar simply said, "Radio no" (Interview, September 17th, 2020).

Preferred platforms. Only two participants had access to television and used search engines. Television was not preferred by the participants who could access it, William said "television, everyone is there watching their program" (Interview, October 28th, 2020), while Edgar explained that "I'm aware of the Edu channel, and some different channels like KU TV and 247… for the time table I'm aware, but I don't follow the timetable maybe sometimes in the morning I come and find 247 they teach form three form four topics I'll follow from there" (Interview, September 17th, 2020)

Three participants preferred WhatsApp for its interaction, systemic accessibility, with William citing its preference. "Anytime I needed it I could access it on a laptop, but for Viusasa only when my sister was not using the phone… I can ask some other friends from school for answers… but also our teachers ask you why you have not sent (the assignments)" (Interview, August 28th, 2020). Beryl also said that with "WhatsApp, I was able to ask questions… Interact even with the peers and teachers… there was Immediate feedback on WhatsApp wall communication" (Interview, August 26th, 2020).

The finding resonates with Usawa's (2020) report which found WhatsApp as the most preferred platform for teachers to reach their learners.

Edgar exclusively utilized YouTube, Zoom, Khan Academy, and KCSE Revision. He said "I prefer YouTube channel and WhatsApp…YouTube they teach specific topics, from school some topics students had problems and subjects the syllabus was not yet completed…so you find a teacher who has completed so I'm comfortable…I am able to find topics which were not completed to finish the syllabus before I go back to school" (Interview, September 17th, 2020).

Search engines were used by two participants Edgar and William who said "I only Google for hard questions". William was also the only participant who used Viusasa.

Frequently used platforms. Five participants frequently used print media, with William occasionally needing to print out online text-based resources. His argument was "the light from [the] laptop at night makes it hard" to read on the screen. Dennis used "Kenya Bureau of Literature KBL" textbooks and Beryl used "printed past papers".

The study reveals that learners did not prefer accessible and popular radios, which aligns with Usawa's (2020) report that states "Most utilized platform of accessing digital learning [platforms] isn't the most accessible [to learners]" (p. 2). The study found that the preferred platforms promoted interaction and collaboration among

classmates, a crucial aspect of any learning environment, as per research (Sharpe & Benfield, 2005; Sit et al., 2005). Participants prefer these platforms due to their social presence and interactive learning experience (Montiel-Chamorro, 2018).

Table 3

Accessibility, Popularity, Frequency, and Preference of Online or Remote Platforms

Platforms	Accessibility	Popularity	Frequency	Preference
Zoom	1	1	1	
WhatsApp	3	3	2	2
SMS Shupavu 129	1	1	-	-
Television	2	2	-	-
Radio		5	1	-
Search engines, e.g., Google	2	2	2	1
Viusasa	1	1	-	-
YouTube	1	1	1	1
Khan Academy	1	1	-	-
KCSE Revision	1	1	-	1
Print media	5	5	5	5

Source of Platform Awareness

The study reveals that participants' awareness of online learning platforms, such as Zoom, WhatsApp, and YouTube, was influenced mostly by their teachers, who initiated their online learning (see Table 3). As Edgar pointed out, "It was the teachers who started the group [WhatsApp group]" and "the class teacher organized…" Likewise, Beryl stated, "I used WhatsApp when the teachers started form four group" (Interview, 26th August 2020).

Two participants, Edgar and William, cited their peers as their primary source of awareness. Edgar remarked, "for the KCSE Revision platform, it was my friend … who told me about it… He gave me his user's name and password". William added that "My friend told me of other platforms, I can't remember the name and shared with me study materials" (Interview, August 28th, 2020). Participants shared their recommendations for certain platforms, with Edgar stating that he had recommended YouTube to his friend.

The study revealed that family members play a crucial role in informing participants about online and remote learning platforms, as William recalls trying one for Viusasa revision which the sister had recommended. Dennis recalls his brother as the one who informed him about the radio program.

Edgar, the only participant in the interview, discovered the Khan Academy through an advertisement (Interview, 17th September 2020).

The study found that teachers, peers, and family members were crucial in promoting online and remote learning experiences. Advertisements had a low impact due to their inaccessibility and unpopularity, as they are major on radios and television advertisement platforms in Kenya which are not popular with the learners. Teachers, peers, and family members were more influential in these experiences.

Synchronous or Asynchronous Platforms

The study found that only one learner used synchronous online learning through Zoom, while three used asynchronous learning through WhatsApp, YouTube, and WhatsApp. Two used Viusasa, Khan Academy, and KCSE Revision, while Dennis used Shupavu 129.

The study found that learners' engagement in online learning is influenced by teachers' awareness, family, and peers. Higher-ranked schools like Edgar's have more digital awareness and organized synchronous and asynchronous learning. Lowly ranked schools like Lynette and Dennis lack awareness of online learning platforms, indicating poor digital infrastructure and poor networking.

The most accessible platforms for participants were radio, WhatsApp, and print media, with all five using them. However, radio broadcasts were not preferred, possibly due to their unpopularity among learners.

WhatsApp gained popularity due to its systemic, accessible, and systemic interaction features, which provide a missing social presence in online and remote learning (Sharpe & Benfield, 2005; Sit et al., 2005; Montiel-Chamorro, 2018). William and Beryl preferred WhatsApp for its accessibility, ability to ask school friends for answers, and ability to ask teachers about assignments not sent.

William, for instance, said "anytime I needed it (WhatsApp) I could access it", adding that "… I can ask some other friends from school for answers…, but also our teachers ask you why you have not sent (the assignments)" (Interview, August 28th, 2020). Beryl also said, "[with] WhatsApp, I was able to ask questions" (Interview, August 26th, 2020).

The findings are in line with Usawa (2020) and Hasan and Khan (2020) findings that WhatsApp is the most preferred platform for teachers and learners due to its flexibility and accessibility.

Five participants frequently used print media, with William printing online resources due to nighttime laptop light making reading difficult. Two participants had access to Google search and television, with William mentioning family members watching their program making it difficult to learn and Edgar not following the TV timetable.

Participants also used YouTube, Zoom, Khan Academy, Viusasa, Shupavu 129, and KCSE Revision, with Shupavu 129 being less popular due to poor content quality and perceived cheating.

The study revealed that only one learner engaged in synchronous online learning via Zoom, while three participated in asynchronous online learning via WhatsApp and YouTube.

The study reveals that limited online learning is hindered by factors like lack of digital devices, basic infrastructure, lack of awareness, and inadequate digital skills.

Limitations and Recommendations for Future Research

The qualitative ethnographic research study provides an in-depth understanding of secondary school learners' experiences in remote areas, but its generalization is limited due to personal experiences, sample size, and setting. The findings suggest a need for a large-scale survey of Kenyan secondary school students to evaluate the current status and realities of online learning in the country.

Factors, such as school environment, family support, digital literacy level, and peer support influence learners' choice of online and remote learning platforms, requiring further comparative study.

Conclusion

The study highlights the commercialization of digital learning, highlighting a digital divide among participants. It calls for ministry guidelines, digital literacy training, and continuous monitoring to optimize online and remote learning experiences.

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