

Opportunities and challenges of on-line learning to learners in Technical and Vocational Education and Training (TVET) institutions in Kenya during the COVID-19 pandemic

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ABSTRACT

Learning in TVET institutions in Kenya has traditionally been done face-to-face. However, the Covid-19 pandemic paralyzed learning countrywide and the learners' experienced physical separation from their peers and trainers. In order to build resilience in learning in TVET institutions, learning was done on-line. The study sought to establish the opportunities and challenges of on-line learning to learners in TVET institutions in Kenya during the Covid-19 pandemic. The study adopted a descriptive research design. The target population was learners at Kabete National Polytechnic, in Kenya. Stratified, random and purposive sampling methods were used to obtain the sample. Data was collected using a questionnaire and interviews. The findings of the study identified the challenges of on-line learning as lack of internet connectivity and technological skills, poor delivery of practical skills among others. The opportunities included; learners became responsible for their learning process, innovative, acquired technological skills among others. The study recommended collaboration among TVET institutions around the world in order to build resilience in education and ensure access of education and training to all. It also recommended sponsorship of female student in STEM courses to enhance equity and gender equality.

Key words: Opportunities, challenges, on-line learning, TVET institutions & Covid-19 pandemic

INTRODUCTION

Deliberations of the United Nations convention established that education is a fundamental human right and also an important factor for the realization of other human rights. The convention further established that education should be made accessible to all (United Nations, 1967). In line with the UN deliberations, education can be viewed as a moving force for empowering human potential since it makes people aware of building their own future, participate in social activities and control the state's actions towards them (Zendeli, 2017). TVET institutions play a central role in preparing learners for successful transition into the labour market as they offer practical skills in their curriculum (British Council, 2021). The emergence of COVID-19 pandemic caused an unprecedented disruption in the provision of education and training worldwide. Measures were taken to contain the spread of the virus such as lockdown and keeping social distance. This catalyzed the adoption of on-line learning in TVET institutions to ensure access and continuity in learning (ILO, 2021).

Problem statement

The value of education worldwide cannot be over-emphasized; whether it is attained formally, informally or non-formally. Education promotes the quality of life and gender equality; eradicates poverty and empowers men and women to participate in economic development among other benefits. In Kenya, more learners prefer joining TVET institutions after completing their secondary education than joining universities as they nurture practical skills. Data from the Ministry of Education shows that 2,632 candidates who qualified for placement to degree programs in 2019 opted for diploma courses in TVET institutions in Kenya. The number nearly doubled in 2020 to 4,840 students (Igadwah, 2021). Learning in TVET institutions has traditionally been done face-to-face. A study by (Schwartz,

Ahmed, Leschitz, Uzicanin & Uscher-Pines, 2020) observed that there are significant challenges of distance learning for schools that have not had on-line learning as they are ill-equipped. This is even made worse when on-line learning is implemented during an emergency. According to Hrastinski (2008), for e-learning initiatives to succeed, educational institutions must understand the benefits and limitations of different e-learning approaches.

Research objective

The study sought to establish the challenges and opportunities of on-line learning in TVET institutions in Kenya.

LITERATURE REVIEW

This section focused on the theoretical orientation of the study and the empirical review.

Theoretical orientation

The study made reference to the Concerns-Based Adoption Model (CBAM) is a tool used to understand the change process and in designing change strategies. The model advances that change is a process and not an event and also is a personal experience. It identifies seven levels of change, namely; awareness, information, personal concerns, management, consequences, collaboration and re-focusing. The awareness stage focuses on understanding the innovation and why it is being proposed, while the information stage focuses on getting the efficacy of the innovation. The personal concerns stage involves assessing the impact of the innovation on the people going through the change, whereas in the management stage is where the concerns shifts to the management and the implementation of the innovation. The consequences stage is used to evaluate change and establish patterns of use, which leads to the collaboration stage where users assess how other user do it, while the re-focusing stage exploring the possibilities of other better ways of carrying out the change (Khololi, 2011). This model suggests that, to effectively implement change, learning institutions should be careful to address the concerns of all stakeholders, namely, the teachers, students, parents and policy makers. However, covid-19 hastened the transition from face-to-face to on-line learning without following the levels of change advocated by the CBAM and failed to effectively address the concerns of the stakeholders.

Empirical review

On-line learning refers to a web-based education system that provides learners with information or expertise using technology. For e-learning initiatives to succeed, educational institutions must understand the benefits and limitations of different e-learning approaches, namely, asynchronous and synchronous (Hrastinski, 2008). Asynchronous e-learning offers flexible learning where learners view instructional materials and complete assignments at their convenient time, provided they do it within a certain time frame. In synchronous e-learning, learners attend class virtually and participate in real-time discussions during class time (British Council, 2021). A study by (Dhawan, 2020) reiterated that, learning institutions will be judged on their speed at which they adapt to the changes in the mode of learning within a short period, and their ability to maintain the quality of education.

It is evident that the COVID-19 pandemic has accelerated the transformation of education to be digitally administered, however, the haste with which learning institution implemented on-line learning amidst the COVID-19 pandemic resulted in loopholes which diluted the quality of education. Majority of the students, who failed to join the on-line classes during the COVID-19 pandemic cited, lack of laptops, internet, and electricity to power their computers, laptops or smart phones. Other students lacked commitment in their studies as they logged in for the class for their names to appear in the attendance register, but left immediately after for other activities. Some students pointed that they logged in for classes in public places which interfered with their concentration (Chepkoech & Nyamai, 2022). Gachanja, Mwangi & Gicheru (2021) observed that students in a medical struggled to complete on-line learning activities which made them feel overwhelmed by the program. It was interesting to note that, even if the effectiveness of on-line learning was reduced by technological challenges, learners gained competencies and appreciated the use of diverse e-learning technologies. Asunka (2008) noted that students reported distress caused by inappropriate implementation practices which led to unpleasant experiences such as communication breakdowns, and the unwillingness of some learners to participate in group assignments. There was

a general feeling of disconnection experienced by the learners due to being away from their peers. These experiences led to the increased dropout rates, low student motivation to learn and low satisfaction with their learning experiences. It also made it harder for learners to stay motivated as they considered the on-line lectures boring. In addition, learners complained that sub-standard course content was being delivered during on-line learning as some of the lecturers were ill prepared to deliver the lessons on-line, especially, practical lessons. Students were also reported to have found it difficult balancing their family responsibilities and social lives with their studies.

According to the findings by (Richards, 2020), the challenges of on-line learning were dreadful for learners from families with low-income who were less likely to have appropriate technology and conducive learning environment at home. In addition, persons with disabilities were struggled two-fold in the absence of in-class instruction, since they were already lagging behind academically before the pandemic. The rise of on-line learning had brought about opportunities for students to take more responsibility for their acquisition of knowledge. The shift to on-line learning was more student-centered, with the lecturer mainly facilitating the students' learning, rather than simply transmitting information. It was noted that students in different courses could have different experiences of online learning.

METHODOLOGY

The study adopted a descriptive research design. The target population was learners at Kabete National Polytechnic. Purposive, stratified and random sampling was used to obtain the sample items where two female students and two male students from the courses identified formed the sample. The sample comprised learners from business and technical courses. Learners sampled for the study were from 14 out of 41 courses offered, of which eight were technical courses while six were business courses. Questionnaires were used to collect data which was then analyzed and presented in diagrams.

FINDINGS AND DISCUSSIONS

This section focuses on the findings of the study which sought to establish the opportunities and challenges of on-line learning in TVET institutions during the covid-19 pandemic.

Respondents

The respondents comprised learners from Kabete National Polytechnic, in Kenya, undertaking business and technical courses. The technical courses undertaken by the learners who formed the sample were, diploma in architecture engineering, quantity surveying, civil engineering, building technology, medical engineering, electrical engineering and mechanical engineering. The business courses were diploma in accountancy, supply chain management, cooperative management, human resource management, project management, information communication and technology (ICT) and business management. All the respondents attested that it was their first time to take on-line studies where they logged in during the scheduled time. This was necessitated by the fact that face-to-face classes were not possible during the covid-19 pandemic.

Learners' induction to on-line learning

The data collected indicated that 41% of the learners were inducted on how to navigate the on-line learning platforms by the trainers from the institution, while 38% learnt using resources in the internet (google). A further 10% of the learners learnt in a cyber café while 11% were taught by friends and relatives as indicated in figure 1 below.

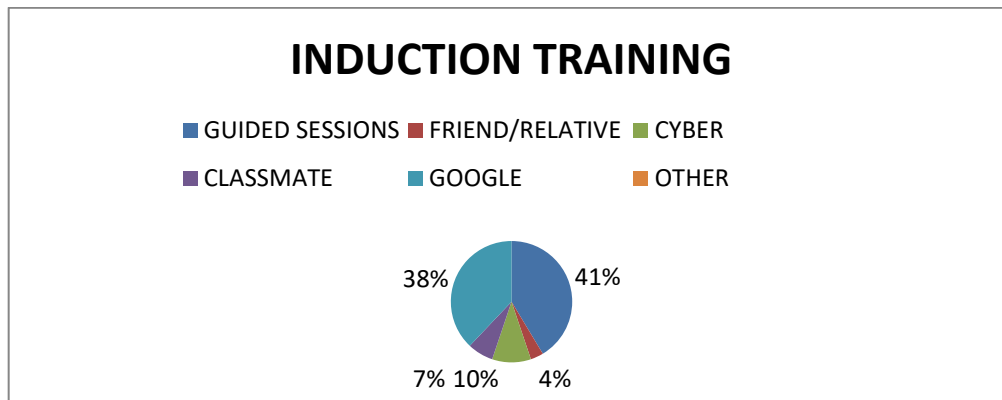


Figure 1: learners induction on on-line learning

Opportunities of on-line learning

Analysis of data shown in figure to identify the opportunities of on-line learning to learners in TVET institutions in Kenya revealed that only 4% of the learners felt that there was no benefit of online learning, 31% felt that it saved on time while 29% reported reduced transport costs. On the other hand, 8% of the learners indicated that online learning was convenient while 15% of the learners took advantage of the time to engage in innovative activities. These benefits presented opportunities to learners in that they gained competencies and appreciated the use of diverse e-learning technologies. Majority of the learners attested that on-line learning forced them to take responsibility of their learning process. Some learners participated in on-line writing and also did on-line business, something they had never done before. This made them have financial independence rather than depend fully on their parents and guardians.

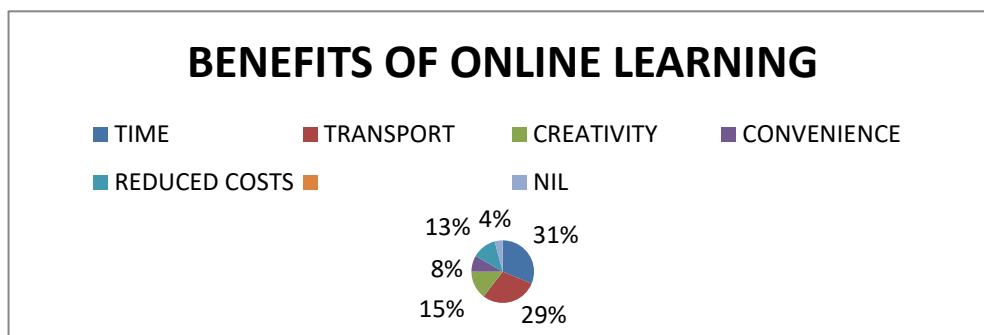


Figure 2: benefits of on-line learning to learners

Challenges of on-line learning

Analysis of the data collected regarding learners experiences with on-line learning revealed that, individual assignments and theory lessons presented the least challenges during online learning. However there were serious challenges of communication breakdown, lack or poor internet connectivity and the high cost of obtaining internet bundles. Some learners, especially those from remote areas complained of lack of electricity which hindered them to participate in on-line learning. This deprived the most marginalized groups of continued learning and put them at risk of dropping out of college. Some learners took their on-line lessons from environments and facilities that were not comfortable nor conducive. It was also evident that practical lessons, undertaken in technical and science courses were not well demonstrated which made learners to be ill-prepared to undertake exams as they are key characteristic of technical and vocational education. This made most learners to postpone to sit for their exams as they were not confident that they were ready to sit for the exams. Most learners indicated that they felt stressed while undertaking the on-line learning. Most learners felt that there was a general decline in the quality of training which caused them to feel demotivation and some they opted to dis-continue with learning.

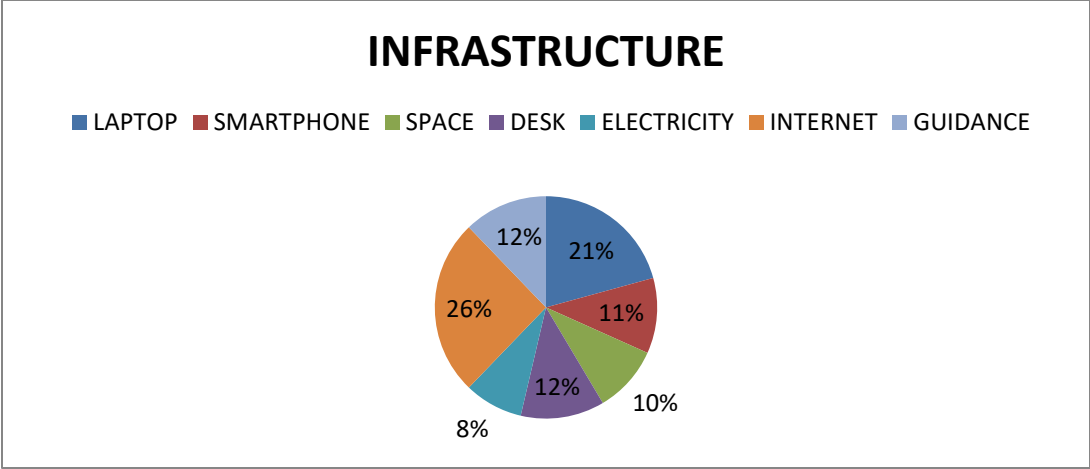


Figure 3: Infrastructure

26% of the sampled trainees were challenged in accessing the internet. 24% had no laptops and resorted to using smart phones. 8 percent felt that guidance from trainers was lacking. A further 10% faced challenges when it came to furniture as well as space.

Analysis of the responses of learners regarding on-line learning as shown in the table below revealed that less than 35% of the learners attested that they had a challenge of learning in a conducive environment, accessing internet and learning in a comfortable facility in each case. Further, 18%, 5% and 23% of the learners said that they logged in for the on-line classes without help and participated in on-line discussions and that the on-line learning was interesting respectively. In addition, 61%, 48%, 60% and 70% of the learners said that the lecturers were well versed with the content, were able to download lecture notes and videos, theory lesson were effectively taught and that there was a delay in their assessment, respectively. In addition 73% of the learners said that they felt disconnected with their peers during on-line learning, which affected their learning negatively, while only 4% of the learners agreed that practical lessons were well taught and demonstrated. A further 44% of the learners said that their parents/guardians were able to support them financially while undertaking on-line classes due the tough economic times brought about by the COVID-19 pandemic.

Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
	%	%	%	%	%
The Internet access was good	0	29	14	44	13
Household chores interfered with my online sessions	6	28	23	29	4
Study environment was suitable for my online sessions	10	20	30	30	10
The facility/place where I took my on-line lesson was comfortable	0	18	27	55	0
I acquired skill on how to log in online sessions without help	0	5	12	31	52
I participated in online sessions discussions	0	27	9	64	0
My parent/guardian were able to support me financial for online-learning	0	44	20	36	0
Theory session were well conducted by lecturer	15	45	13	27	0
Practical sessions were well demonstrated by the lecturers	0	4	15	53	27
I always attended the on-line lessons	0	37	2	36	25
I only logged in for attendance purpose	0	41	32	27	0
Separation from my peers negatively affected my studies	39	35	10	16	
The quality of training was good	0	43	22	22	13
There was delay in assessment(exams)	0	70	7	23	0
I felt stressed and disconnected from my peers	31	43	6	20	0
The group-discussions were effective	0	26	20	54	0
There was usually communication breakdown while on session	0	67	13	20	0
On-line classes were interesting/ not boring	0	23	12	65	0
I experienced difficulties in focusing on what was being taught	7	41	7	45	0
I had hearing/visual impairment which affected my online learning	0	4	0	65	31
My lecturers were well versed in delivery of lectures	0	61	15	23	17
I was able to download notes and videos for online class	27	21	5	37	10
Family responsibilities affected my learning online	18	34	15	23	10
My social life affected online learning	0	29	14	53	4

CONCLUSIONS AND RECOMMENDATIONS

The study concluded that the learners who had most challenges were those taking technical and science courses as they needed hands-on training for skill development as opposed to those taking business courses. They were followed by learners from families with low or no income as they could not afford computers and internet connectivity. In addition, learners from remote places had challenges in on-line learning either because of lack of electricity, lack of internet connectivity or extreme poverty. However, despite the challenges faced by the learners with on-line learning during the covid-19 pandemic, most of them were deliberate and took charge of their learning thus building resilience in their education.

The study recommends that TVET institutions in Kenya should partner with stakeholders in the education sector around the globe to establish the infrastructure and build human capacity required for effective on-line learning. This will ensure that education is made accessible, affordable and flexible to all learners in Kenya. They should also encourage collaboration with other TVET institutions around the world and look for sponsorship for the female students particularly in Science, Technology, Engineering and Mathematic (STEM) courses and those from marginalized communities.

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