

## Assessment of Satisfaction with Online Learning Environment Among Nursing Students in Kenya Medical Training College (KMTC) Nairobi

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### Abstract

In recent years, there has been an increased use of eLearning in medical training colleges, driven by technological advancements, learners' desire for flexibility, and the COVID-19 pandemic. However, there is limited literature on nursing students' satisfaction with the eLearning environment at Kenya Medical Training College (KMTC) in Nairobi. Therefore, this study aimed to assess nursing students' satisfaction with online learning at KMTC Nairobi, focusing on students and institutional-related factors. A cross-sectional survey was conducted, involving 259 nursing students who were selected proportionately from eligible classes. The findings revealed that a significant proportion of students faced challenges in accessing a computer 115(50.2%), reliable internet 151(65.1%), and a conducive study area 123(53.2%). Cross-tabulation analysis showed that various student factors, including navigating online platforms ( $p = 0.026$ ), browsing the internet ( $p = 0.003$ ), accessing and using a computer ( $p = 0.003$ ), having reliable internet access ( $p = 0.01$ ), and being in a conducive environment for online classes ( $p = 0.01$ ), were significantly associated with high satisfaction with e-learning. Institutional support for e-learning was perceived as inadequate, significantly impacting satisfaction levels ( $p < 0.05$ ), particularly in terms of technical support availability and access to e-learning platforms for all students. The study recommends actions to improve the online learning experience, including ensuring access to computers and reliable internet and addressing gaps in institutional support.

**Keywords:** *Student satisfaction, online learning environment, student factors, institutional factors*

### 1.0 Introduction

Educational institutions worldwide had to shift the teaching delivery mode from face-to-face to online teaching during COVID-19. Most of the nursing training institutions were based on face-to-face learning until the sudden outbreak of COVID-19. Racheva (2018) describes online learning as a virtual classroom environment that allows for interaction between the instructor and the learners as they participate in study activities. Similarly, Kenya Medical Training College (KMTC) defines online learning as a systematic application and integration of information and communication Technologies in the process of teaching and learning (Kenya Medical Training College [KMTC], 2019b). It is the use of a computer connected to a network to learn from anywhere, and at any time (Dhawan, 2020).

The number of institutions offering courses online has risen exponentially across the world (Dhawan, 2020; Moloney & Oakley, 2016). The uptake of online learning is importunately higher in developed countries compared to low-and-medium income economies. In 2016, there were over 6 million students in the U.S. who enrolled in at least one online course (Palvia et al., 2018), and the proportion of students enrolled in at least one online course has risen to over 30%. A recent study in Kenyan Public universities revealed a few lecturers (32%) and students (35%) were using e-learning and few courses (10%) were offered online (Makokha & Mutisya, 2016).

Several challenges and opportunities have made online learning a must-have in the future (Dhawan, 2020). Web-based learning has recently become possible because of tremendous advanced technologies. Further, the demand by working learners from remote areas for more accessible approaches (Matiang'i et al., 2018) that allow them to study while in employment, but with minimal face-to-face teacher-student interaction is motivating institutions to listen to and act on issues raised by this constituency of learners. Lastly, the emergence of situations, for instance COVID-19 pandemic, has significantly interrupted traditional classroom learning across the globe (United Nations Sustainable Development Group [UNSDG], 2020) and challenged educational institutions to alter content delivery in favor of online teaching and learning (Dhawan, 2020).

There have been concerns about the quality of the online teaching environment, the value and effectiveness of content delivery, as well as the accessibility of the online platforms (Bolliger & Wasilik, 2017). Further, there are worries among the faculty and students alike that online platforms do not allow as much interaction as face-to-face courses would have (Moloney & Oakley, 2016). Furthermore, literature has cast doubts on the levels of faculty commitment to online teaching, students' indiscipline in online classrooms as well as the prohibitively high initial costs to set up the online classes (Bolliger & Wasilik, 2017).

### ***1.1 Problem statement***

The usage of online platforms for teaching and learning has increased in recent years. In developed economies such as the UK and the US, eLearning has been extensively used in the pre-registration training of nurses (Bramer, 2020). In USA, over 30% of students are enrolled in at least one online course (Palvia et al., 2018). In the past few years, online learning has incrementally attracted attention in nursing programs in middle- and low-income countries like Kenya. According to a recent survey conducted in Kenyan public universities, only a few instructors (32%) and students (35%) use e-learning, and only a few courses (10%) are offered online (Makokh & Mutisya, 2016). However, recent developments have changed this. For example, the emergence of COVID-19, which severely disrupted physical on-campus learning, and the desire for working students to complete their education online while working, have all contributed to this trend. Though KMTC had planned to begin online learning as part of its strategic plan, the impetus for online learning increased in August 2020 due to the outbreak of the covid 19 pandemic in March 2020, which disrupted physical learning. eLearning delivered in Kenya Medical Training College – Nairobi involves the lectures uploading the notes, scheduling the online classes, and teaching through the online platform. The online learning in KMTC Nairobi is managed by the Information Communication and Technology department that supports e-learning. The evaluation of user satisfaction is an important quality indicator that can identify what needs to be improved in an online program for it to succeed (Kenya Medical Training College [KMTC], 2019b). Despite this, there is a paucity of research literature on students' satisfaction with the E-learning environment in Kenyan medical colleges, especially among nursing students. Though there is anecdotal evidence that students

have trouble accessing gadgets and navigating online learning platforms, scientifically compiled evidence on the matter is scarce at Kenya Medical Training College. A systematic investigation has shown students' satisfaction with the e-learning environment would influence Continuous Quality Assurance (CQA) decisions at nursing schools. The goal of this research is to find out how satisfied KMTC (Nairobi) preservice students are with online teaching and learning.

### **1.2 Research Objectives**

- i. To investigate student-related factors that influence satisfaction with online learning among nursing students in KMTC Nairobi
- ii. To assess the institutional factors that influence KMTC students' satisfaction with online learning among nursing students in KMTC Nairobi

## **2.0 Theoretical Review**

The theory of reasoned action (TRA) is premised on the argument that human behavior is motivated by the objectives one wants to achieve. The theory contends that beliefs affect attitudes, which bring about intentions and thus generate behavior. This explains that the satisfaction with e-learning by students is attributed to many factors including student and institutional factors

### **2.1 Empirical Review**

The list of issues relating to the students that influence their satisfaction with online learning is long. The satisfaction primarily stems from the students' attitude regarding interactivity in online platforms and the individual preparedness for online learning. In addition, commitment time management, and socio-economic and demographic variables play a role. These are discussed next.

Demographic variations in the use of online platforms have been observed in previous studies (Harsasi & Sutawijaya, 2018). In a study into issues contributing to students' online satisfaction and retention, Dhawan (2020) concluded that age and marital status may play a role in the student's satisfaction and retention in online classes. Besides age and marital status, socio-economic backgrounds may not only create inequalities in access to ICT infrastructure but may also be the reason for the digital literacy gap across societies (Dhawan, 2020; Kim & Lee, 2017). The ability to access and use reliable internet facilities was associated with students' satisfaction with online learning during the COVID-19 pandemic (Basuony et al., 2020). Furthermore, satisfaction levels vary across students' previous experience with Internet (Cakir, 2016; Hadullo et al., 2018).

Individual students' commitment, particularly personal discipline to ensure adequate time to attend online classes has been a major concern to stakeholders (Dhawan, 2020). Though the time flexibility aspect typically found in online classes is attractive to most learners (Harsasi & Sutawijaya, 2018), most learners may find it problematic to balance their jobs, family responsibilities, and social engagements with online learning (Dhawan, 2020). Furthermore, Dhawan holds that online classes are poorly attended, and those who rarely stay active through the entire session. Additionally, there are a lot of distractions from the environment if online classes are not carefully planned (Dhawan, 2020). Therefore, Self-motivation and discipline in online learning are critical (Hadullo et al., 2018). Likewise, McIntyre et al. (2017) conducted a qualitative study of students' experiences in online classes. Whereas online platforms provided a feeling of flexibility, there was the realization among students that online classes

require more individual learners' commitment and self-drive than traditional face-to-face learning.

Interactivity refers to the extent to which the students can engage each other and the faculty over the platform (Bolliger & Wasilik, 2017). Abuatiq et al. (2017) conducted a systematic literature review to establish trends in online nursing education and how to sustain quality in eLearning. Abuatiq et al. noted that good interactivity enhanced learning. However, a persistent concern among students and faculty is that online platforms do not foster as much interaction among the participants as face-to-face learning would have done. A content analysis on the recent explosion of eLearning and the associated challenges in India by Dhawan (2020) concurs with the findings of Moloney and Oakley. Dhawan (2020) noted that most students are dissatisfied with the lack of personalized attention from their online instructors. Additionally, the study observed that most students find online learning boring and less interactive.

Lack of preparedness to use the online learning management system is a concern for many institutions. The existing digital divide across the different demographics of societies means that some students may not afford the requisite devices and uninterrupted internet connectivity (Dhawan, 2020). In their case study of challenges bedeviling access and use of University Learning management systems, Wright et al. (2017) cite lack of access as a major issue. The study notes, for example, that while many universities in Ghana provide uninterrupted internet connectivity, most students do not have access to Internet off Campus. Moreover, some students may lack the technical know-how to navigate through the online platforms, thus feeling disgruntled (Abuatiq et al., 2017). These may end up creating inequalities in learning opportunities.

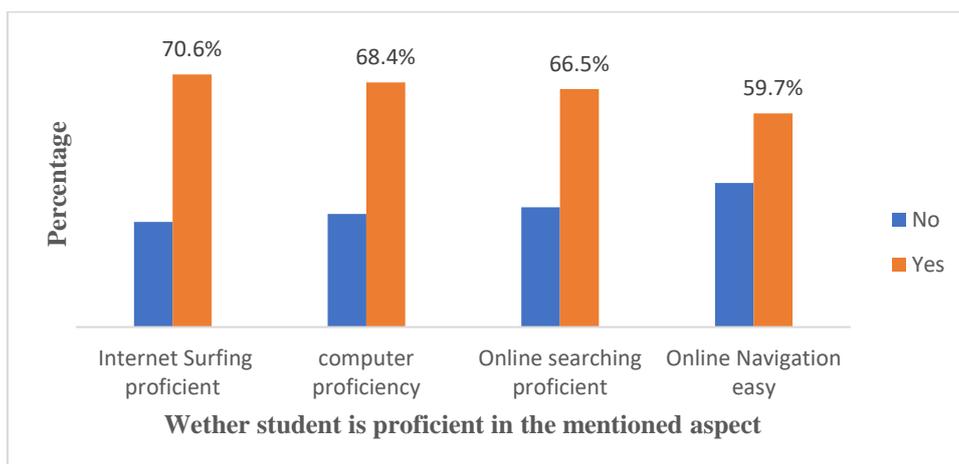
### **3.0 Methodology**

A cross-sectional survey was conducted, involving 259 nursing students who were selected proportionately from eligible classes. Data was collected using self-administered semi-structured questionnaires and a Focus Group Discussion guide. Ethical clearance was obtained, and participants were informed of the study objectives before giving consent. The collected data were coded, cleaned, and analyzed using SPSS software. The findings of the quantitative analysis were presented using charts, narratives, tables, and figures to effectively communicate the results. The qualitative data obtained from the focus group discussions were thematically analyzed, and the themes identified were presented in a prose format to provide a comprehensive understanding of the participants' perspectives and experiences.

### **4.0 Results and Discussion**

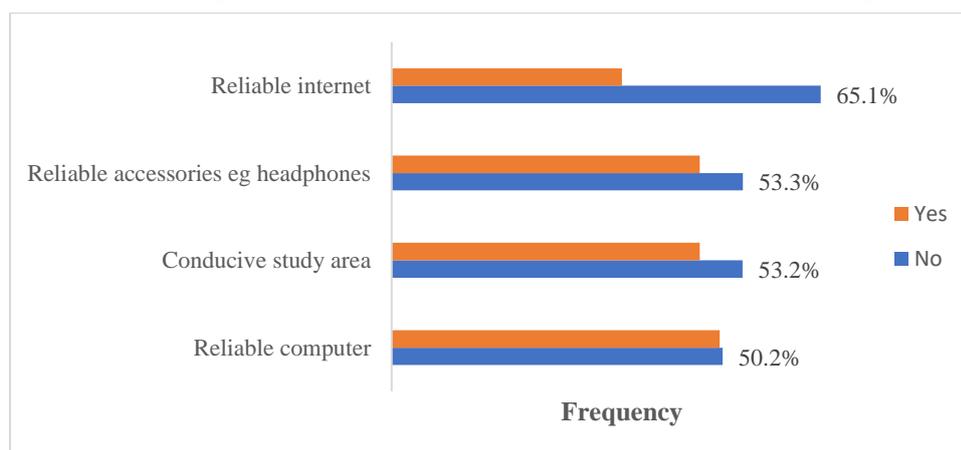
#### **4.1 Student characteristics**

The ability of students to use relevant technology for online learning, as well as their access to that technology, was evaluated. Figure 1 depicts the students' technological proficiency. In that order, 161(70.6 %) were proficient in internet browsing, 160 (68.4%) in computer use, and 155(66.5%) could search and download files online. The learners were least proficient (138(59.7%)) in using navigation features during online classes.



**Figure 1: Students’ ability to use eLearning technology**

Regarding easy access to resources that support online learning, more than half of the students (See Figure 2) had no reliable computers, study areas, accessories, or internet supply. The most difficult challenge was internet access, with only 81(34.9%) having reliable internet access.



**Figure 2: Students’ access to resources that support eLearning**

#### 4.2 Student characteristics vs. satisfaction level

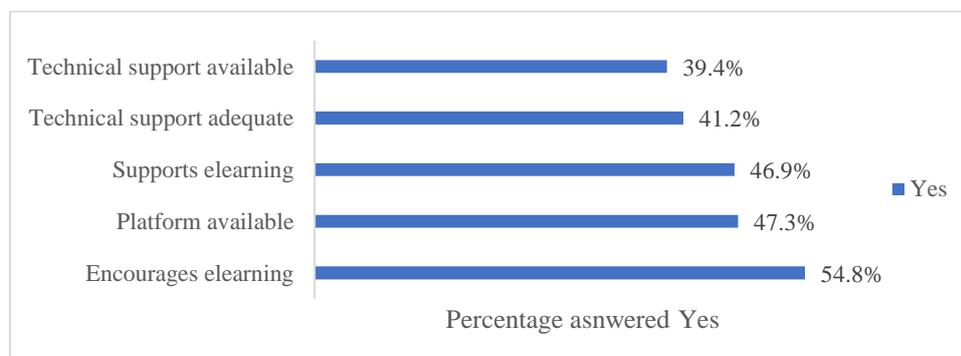
Students’ proficiency in online learning technology and access to eLearning resources were cross-tabulated with satisfaction levels to assess their associations. As shown in Table 1, significantly higher frequencies of satisfaction were reported among students who easily navigated the online classroom features ( $p=0.026$ ), were computer proficient ( $p=0.003$ ), were Internet surfy ( $p=.002$ ), and were able to search online browsers and download files ( $p=0.003$ ) easily. With regards to access to resources, significantly higher levels of satisfaction were noted among learners with reliable computer access ( $p<0.001$ ), reliable internet access ( $p<0.001$ ), and a conducive study area ( $p<0.001$ ).

**Table 1: Student characteristics vs. satisfaction level**

Characteristics		Satisfaction Level						Significant at $p \leq 0.05$
		High		Low		Total		
		n	%	n	%	n	%	
Online navigation easy	No	27	31.0%	66	45.8%	93	40.3%	$\chi^2 = 4.938$ df=1 <b>p=0.026*</b>
	Yes	60	69.0%	78	54.2%	138	59.7%	
	Total	87	100.0%	144	100.0%	231	100.0%	
Computer proficiency	No	18	20.2%	56	38.6%	74	31.6%	$\chi^2 = 8.631$ df=1 <b>P=0.003*</b>
	Yes	71	79.8%	89	61.4%	160	68.4%	
	Total	89	100.0%	145	100.0%	234	100.0%	
Internet Surfing proficient	No	15	17.4%	52	36.6%	67	29.4%	$\chi^2 = 9.493$ df=1 <b>p=0.002*</b>
	Yes	71	82.6%	90	63.4%	161	70.6%	
	Total	86	100.0%	142	100.0%	228	100.0%	
Online searching proficient	No	19	21.6%	59	40.7%	78	33.5%	$\chi^2 = 8.970$ df=1 <b>p=0.003*</b>
	Yes	69	78.4%	86	59.3%	155	66.5%	
	Total	88	100.0%	145	100.0%	233	100.0%	
Reliable computer	No	24	28.2%	91	63.2%	115	50.2%	$\chi^2 = 26.130$ df=p=1 <b>p&lt;0.001*</b>
	Yes	61	71.8%	53	36.8%	114	49.8%	
	Total	85	100.0%	144	100.0%	229	100.0%	
Reliable Internet	No	42	47.7%	109	75.7%	151	65.1%	$\chi^2 = 18.800$ df=1 <b>p&lt;0.001*</b>
	Yes	46	52.3%	35	24.3%	81	34.9%	
	Total	88	100.0%	144	100.0%	232	100.0%	
Conducive study area	No	93	64.6%	30	34.5%	123	53.2%	$\chi^2 = 19.739$ df=1 <b>p&lt;0.001</b>
	Yes	51	35.4%	57	65.5%	108	46.8%	
	Total	144	100.0%	87	100.0%	231	100.0%	
Reliable accessories, e.g. headphones	No	40	46.5%	82	57.3%	122	53.3%	$\chi^2 = 2.531$ df=1 P=.112
	Yes	46	53.5%	61	42.7%	107	46.7%	
	Total	86	100.0%	143	100.0%	229	100.0%	

### 4.3 Institutional support

Figure 3 shows the perceived extent of institutional support towards the success of eLearning. Whereas the college did very well in encouraging students to adopt eLearning 125(54.8%), it performed below average on other related issues. For example, only 94(41.2%) felt the technical support provided was adequate, 106(46.9%) said the institution had succeeded in supporting eLearning, and 107(47.3%) felt the college had availed an eLearning platform to all learners.



**Figure 3: Perceptions of institutional support towards eLearning**

#### 4.4 Institutional support vs. satisfaction levels

On cross-tabulation, the institutional support factors were significantly associated with the level of satisfaction with eLearning among the students surveyed ( $p < 0.05$ ). Significantly high levels of satisfaction were reported among the learners who felt that the technical support provided was available and adequate ( $p < 0.001$ ), were able to access the eLearning platform ( $p < 0.001$ ), who felt the college encouraged students to adopt eLearning ( $p < 0.001$ ), and those who felt the institution had successfully supported eLearning ( $p < 0.001$ ).

**Table 2: Institutional support vs. satisfaction levels**

Description		Satisfaction Level						Significant at $p \leq 0.05$
		Low		High		Low		
		n	%	n	%	n	%	
Technical support adequate	No	104	71.7%	30	36.1%	134	58.8%	27.577 <b>df=1</b> <b>p&lt;.001</b>
	Yes	41	28.3%	53	63.9%	94	41.2%	
	Total	145	100.0%	83	100.0%	228	100.0%	
Platform available	No	91	63.2%	28	34.1%	119	52.7%	17.684 <b>df=1</b> <b>p&lt;.001</b>
	Yes	53	36.8%	54	65.9%	107	47.3%	
	Total	144	100.0%	82	100.0%	226	100.0%	
Encourages eLearning	No	81	55.9%	22	26.5%	103	45.2%	18.367 <b>df=1</b> <b>p&lt;.001</b>
	Yes	64	44.1%	61	73.5%	125	54.8%	
	Total	145	100.0%	83	100.0%	228	100.0%	
Supports eLearning	No	97	66.9%	24	28.9%	121	53.1%	30.573 <b>df=1</b> <b>p&lt;.001</b>
	Yes	48	33.1%	59	71.1%	107	46.9%	
	Total	145	100.0%	83	100.0%	228	100.0%	

#### 4.5 Themes from Qualitative Data

##### Convenience and Flexibility

Many participants expressed positive opinions about online learning, highlighting the convenience and flexibility it offered. They appreciated the ability to access learning materials and participate in classes at their convenience, which allowed them to balance their studies with other commitments.

"Online learning has been a game-changer for me. I can study at my own pace and choose the most suitable time for me. It has made it easier to juggle my work and family responsibilities."

##### Lack of Support and Guidance

Some participants who expressed dissatisfaction with online learning cited a lack of support and guidance as a significant concern. They felt that there was inadequate assistance from instructors and limited opportunities for interaction and clarification of concepts.

*"I struggled with understanding certain topics because there was no immediate support available. It was difficult to reach out to instructors for clarification, and it affected my learning experience."*

##### Poor Access to Gadgets and Internet

Another common theme among participants who expressed negative views about online learning was the lack of access to necessary gadgets and reliable internet connections. They

highlighted the challenges faced in obtaining the required devices and experiencing frequent connectivity issues.

*"I wanted to participate in online classes, but I couldn't afford a laptop or a stable internet connection. It was frustrating to see my classmates engaging in discussions while I struggled to access the online platform."*

### **Lack of Immediate Feedback**

Participants who had reservations about online learning mentioned the absence of immediate feedback as a drawback. They emphasized the importance of timely feedback from instructors to gauge their progress and address any misconceptions.

*"One of the downsides of online learning was the delay in receiving feedback. It's crucial to have prompt responses and corrections to improve our understanding. Waiting for feedback for days affected my motivation to learn."*

These themes emerged from the focus group discussions, highlighting the varying perspectives and experiences of the participants regarding their satisfaction with online learning.

## **4.6 Discussion**

### **Student characteristics**

Regarding online learning, the learners in the current study were found to be least proficient (138, 59.7%) in using navigation features during online classes. Limited internet access was also identified as a challenge, with only 81 (34.9%) having reliable access. The study found significantly higher levels of satisfaction ( $P < 0.05$ ) among students who were proficient in navigating the online classroom features, computer proficient, internet-savvy, and able to conduct effective online searches. Similarly, satisfaction levels were higher among learners with reliable computer and internet access and a conducive study area. The findings align with the study by Muuro et al. (2018) and the E-readiness assessment in Kenya, which identified limited access to computers and internet facilities as major hindrances to online learning. Additionally, Hadullo et al. (2018) highlighted the importance of learner characteristics, such as computer proficiency and internet access, as significant factors in quality eLearning.

### **Institutional support**

The study found that a significant proportion of the learners (41.2% to 47.3%) perceived technical support, institutional support, and availability of e-learning platforms positively. Higher levels of satisfaction were reported among learners who felt that technical support was available and adequate, had access to the e-learning platform, perceived institutional support, and felt that the college encouraged e-learning adoption. The findings align with the importance of institutional support and technical assistance highlighted by Dhawan (2020) and the role of e-learning infrastructure and support systems emphasized by Muuro et al. (2018).

## **5.0 Conclusion**

The findings reveal that there was a sizeable population of students who could not access a computer (50.2%) reliable Internet (65.1%) or a conducive study area (53.2%). On cross-tabulation, various student factors were significantly associated with high satisfaction with e-learning, including navigating online platforms ( $p = 0.026$ ), browsing the Internet ( $p = 0.003$ ), accessing and using a computer ( $p = 0.003$ ), having reliable Internet access ( $p = 0.01$ ), and being in a conducive environment for holding online classes ( $p = 0.01$ ).

On institutional support for e-learning, most students felt it was unavailable or inadequate, significantly lowering their satisfaction levels ( $p < 0.05$ ). In particular, most learners (58.8%)

felt that there was inadequate technical support, and the college did not support (53.1%) or avail e-learning platforms to all learners (53.7%).

## 6.0 Recommendations

To enhance student access and support, the institutions should deliberately; Ensure access to computers and reliable internet for all students, provide resources and guidance to create conducive study environments; and offer training and support for students to effectively navigate online platforms, browse the internet, and use computers.

In enhancing institutional support, the college administration should: Address gaps in technical support, ensuring timely and effective assistance for students; promote equitable access to e-learning platforms for all students, regardless of their backgrounds or circumstances; invest in resources and infrastructure to improve technical support services and address technical issues promptly; and establish clear policies and guidelines to support effective online learning practices across the institution.

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