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Virtual Learning Practices in the Faculty of Humanities and Social Sciences at Mid-West University during the COVID Pandemic

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Abstract

This paper aims to explore the virtual learning practices in the Faculty of Humanities and Social Sciences at Mid-West University during the COVID-19 pandemic. This study employs a cross-sectional research design under the broader category of descriptive research, relying on the questionnaire as the main tool for data collection. The population comprises the first- and second-semester students of faculty of humanities and social sciences from four campuses of Mid-West University. A purposive sampling technique was utilized to select 159 students, determined using the Raosoft sample size calculator, and SPSS was used for statistical data analysis. The findings reveal that the majority of students (62.3%) received digital training, mainly focused on using Zoom, with high engagement participation rates (94.3%). However, engagement was inconsistent due to reliance on mobile data for internet connectivity (55.8%), and smartphones were the primary device for most students (87.4%). Despite these challenges, students favored live presentations and discussions, showing a preference for interactive, real-time virtual learning experiences. The study highlights the need for improved digital infrastructure. The study recommends that the stakeholders should focus on enhancing accessibility, optimizing platforms for mobile use, and providing more robust internet and device support to ensure equitable and effective virtual learning experiences in the COVID-like situation.

***Keywords**:* Challenges, COVID Pandemic, digital tools, technology, virtual learning

Introduction

The COVID-19 pandemic has a massive global health crisis (Pasa et al., 2024; Acharya, et al., 2022) and profoundly disrupted the global education sector (Ali, 2020), leading to widespread school closures and the rapid adoption of digital learning platforms (Dawadi et al., 2020). Although schools particularly in developed countries switched their physical classroom to virtual learning immediately after the outbreak of COVID-19 in China in December 2019 and gradually across the world (Huang et al., 2020). However, this was not the case for developing countries, as they have been facing difficulties in adopting virtual education due to a lack of infrastructure and resources. With no exception, Nepal

had to force for transition from traditional learning environments to virtual ones about traditional learning with more than 90% students around the globe (Lamichhane, 2020). With the Nepalese government's decision to close educational institutions on March 18, 2020 (UNESCO, 2020), more than 90% of the world's learners, were forced to stay at home due to global lockdowns (Acharya et al., 2020), universities began using digital platforms to maintain continuity in education (Dawadi et al., 2020). The government is considering online learning as a viable option during the pandemic (Thapa, 2020) to support this transition, the Ministry of Education introduced digital education initiatives (The Himalayan Times, July 07, 2020).), and the University Grants Commission provided a framework for virtual learning (UGC, 2020). But the effective implementation of these initiatives got hindered due to challenges like lack of access to technology and internet, digital illiteracy among teachers and students etc.

This shift from traditional teaching to virtual learning has posed significant challenges, particularly in Nepal (Khati & Bhatta, 2020). Nepal faces significant gaps in effective online education due to unreliable internet and electricity, especially in remote areas (Gautam & Gautam, 2021). A recent report shows that about 72% of people in Nepal are connected to the internet, but only around 12% have broadband connections (Ghimire, 2020). Limited technological infrastructure, digital literacy skills, and unequal access to the internet have exacerbated learning disparities among students (Heyojoo et al., 2020). But most Nepali schools could not adopt remote learning due to lack of information and communication technology (ICT) infrastructure and knowledge. Only some especially urban private schools attempted to continue their educational activities through online mode by using various ICT tools such as Zoom, Teams, Messenger, Viber, Google Meet and Skype. However, most government schools have been completely shut down. Students and teachers' lack of access to ICT and ICT skills (Rana, 2018; Rana, 2022) seem to be barriers to implementing remote learning. Both teachers and students struggle with inadequate technical skills, impacting their ability to use online platforms effectively in Nepal (Regmi, 2021; Gautam & Gautam, 2021; Thapaliya et al., 2024). Many universities struggled with the necessary infrastructure, technology, and affordability (Lamichhane, 2020), as well as the willingness and preparation of both teachers and students (Mohamedbhai, 2020).

Despite these challenges, many higher education institutions in Nepal began to offer online learning options following the pandemic crisis. In the same manner, Mid-West University approved the Mid-West University Digital, Virtual, and Alternative Teaching Learning and Operating System Policy Guidelines, 2020, which outlined the university's virtual teaching-learning system, including e-admission, e-classes, e-assessment, e-examination, and e-certification (MU, 2020). Mid-West university also announced the notice for the online classes. Teachers and students were informed through Facebook post

and university website to connect in online training since most of the teachers and students were locked in their villages. Teachers and students were provided training to use zoom for online classes in zoom platform. However, making an immediate shift to online classes proved to be extremely difficult.

While much has been studied about the broader implications of digital learning during the pandemic, there remains a significant gap in understanding how virtual learning specifically practiced by the students in the Faculty of Humanities and Social Sciences at Mid-West University. This study aims to explore how these students adapted to the transition from traditional classrooms to online platforms during the COVID pandemic. The focus will be on identifying the practices and challenges of students in virtual learning.

Methods

Research Design

This study employed a descriptive, cross-sectional design using quantitative data.

Study Site

The study was conducted at the Central Campus of Humanities and Social Sciences and three constituent campuses of Mid-West University: Bageshwari Multiple Campus, Babai Multiple Campus, and Narayan Multiple Campus.

Sampling Methods

The study population included all students studying compulsory English under the Faculty of Humanities at Mid-West University. A total of 159 students were purposively sampled from four campuses to ensure diverse representation: 57 from the Central Campus, 52 from Babai Campus, 29 from Bageshwari Multiple Campus, and 21 from Narayan Campus. This approach aimed to capture a broad perspective on students' virtual learning practices during the pandemic.

Data Collection Tool

A structured, self-administered questionnaire was designed to collect quantitative data from students. The questionnaire consisted of two parts: general profile of participants and the students' virtual learning practice. Moreover, the questions were formatted with binary and multiple-response options to facilitate straightforward analysis.

Data Collection Procedure

A self-administered questionnaire was used to collect data from students at four campuses. Students were given the questionnaire and completed it independently. As they submitted the responses, their participation was acknowledged with thanks.

Data Analysis

The collected quantitative data were checked, organized, edited, and coded. The data were then analyzed using SPSS software, employing descriptive statistical tools such as frequencies, percentages, and cross-tabulations.

Ethical/Safety Issues

Permission to conduct the study was obtained from the University Grants Commission (UGC) and the respective campus administrations. Verbal consent was sought from the study participants. The selected participants were asked for their consent to be involved in the study. Confidentiality was maintained throughout the study. They were assured that their responses would remain anonymous and be safeguarded through strict coding measures.

Results and Discussion

This section includes the digital skill development trainings, types of training received, internet access, and engagement on virtual learning, use of digital tools & ICT devices, and forms of virtual learning practiced by the respondents.

Training and Use of Digital Tools

The study revealed that 62.3% of the respondents had received digital training, with a majority of them (63.5%) being female. Notably, all respondents (100%) from Bageshwari Campus had received digital training; Central Campus has had such training. Interestingly, a significant proportion (62.5%) of first-semester students had received digital training. Additionally, 67.2% of respondents from urban areas had undergone digital training, whereas 40.8% of those in rural areas had not received any training (Table 1).

Table 1

Received any Digital Training on the Basis of Sex, Campuses, Semester and Area.

Details	Yes	No	Total
Sex			
Male	33 (60.0%)	22 (40.0%)	55 (100.0%)
Female	66 (63.5%)	38 (36.5%)	104 (100.0%)
Total	99 (62.3%)	60 (37.7%)	159 (100.0%)
Campus			
Central Campus	21 (36.8%)	36 (63.2%)	57 (100.0%)
Babai Campus	36 (69.2%)	16 (30.8%)	52 (100.0%)
Bageshwari	29 (100.0%)	0 (0.0%)	29 (100.0%)
Narayan	13 (61.9%)	8 (38.1%)	21 (100.0%)
Total	99 (62.3%)	60 (37.7%)	159 (100.0%)
Semester			
First	15 (62.5%)	9 (37.5%)	24 (100.0%)
Second	84 (62.2%)	51 (37.8%)	135 (100.0%)
Total	99 (62.3%)	60 (37.7%)	159 (100.0%)
Area			
Urban	41 (67.2%)	20 (32.8%)	61 (100.0%)
Rural	58 (59.2%)	40 (40.8%)	98 (100.0%)
Total	99 (62.3%)	60 (37.7%)	159 (100.0%)

E-learning, like any other pedagogical approach, adheres to specific norms and requires proper preparation and training (Lakhey & Shakya, 2022). The present study reveals that a significant majority of students have received digital training, which aligns with the findings of Lakhey and Shakya (2022), where 70% of students had prior exposure to this pedagogical method and contrasts with the findings that reported, at the outset of the pandemic, only 26% of students had formal training in distance education (Zakarija-Grković et al., 2023b). The disparity between these studies and the current findings may be attributed to the lack of formal training programs organized by the campus for their students.

Types of Training

The finding illustrates that most (89.2%) of the respondents had received Zoom training and very few (0.7%) had received the Google Meet. Similarly, all the respondents from Bageshwari campus, most (90.6%) from urban area had received Zoom training (Table 2).

Table 2

Types of Training Received by the Respondents on the Basis of Sex, Campuses and Area.

Factors	Zoom	Microsoft Team	Google Meet	Google Classroom	Google Docs	Other	Total
Sex							
Male	87.8%	2.0%	0.0%	4.1%	4.1%	2.0%	100.0%
Female	89.9%	1.0%	1.0%	6.1%	0.0%	2.0%	100.0%
Total	89.2%	1.4%	0.7%	5.4%	1.4%)	2.0%	100.0%
Campus							
Central Campus	94.6%	0.0%	0.0%	0.0%	0.0%	5.4%	100.0%
Babai Campus	74.4%	0.0%	2.3%	18.6%	4.7%	0.0%	100.0%
Bageshwari	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Narayan	90.0%	10.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total	89.2%	1.4%	0.7%	5.4%	1.4%	2.0%	100.0%
Area							
Urban	91.4%	0.0%	0.0%	1.7%	1.7%	5.2%	100.0%
Rural	87.8%	2.2%	1.1%	7.8%	1.1%	0.0%	100.0%
Total	89.2%	1.4%	0.7%	5.4%	1.4%	2.0%	100.0%

The finding that the significant majority of the students in this study received training exclusively on the Zoom platform reflects the university's limited provision of training on this tool, excluding access to other platforms. This aligns with Krome's (2021) review, which noted Zoom's widespread use in higher education during the COVID-19 pandemic. Additionally, Zulherman et al. (2021) found that hedonic motivation and perceived self-efficacy were key drivers of Zoom usage during the pandemic. Leekang (2024) emphasized that training and available resources significantly influence online learning self-efficacy, highlighting the importance of effective platform training for successful virtual learning experiences.

Engagement in Virtual Learning

The study showed that both 95.2% of female and 92.7% of male respondents were engaged in virtual learning. All the respondents from Bageshwari campus and most (81.0%) respondents from Narayan campus were engaged in virtual learning. And almost (96.7%) from urban area were engaged in virtual learning (Table 3).

Table 3

Engagement of Respondents in Virtual Learning on the Basis of Sex, Campuses, Semester and Area.

Factors		Yes	No
Sex	Male	92.7%	7.3%
	Female	95.2%	4.8%
Total		94.3%	5.7%
Campus	Central Campus	96.5%	3.5%
	Babai Campus	94.2%	5.8%
	Bageshwari	100.0%	-
	Narayan	81.0%	19.0%
Total		94.3%	5.7%
Area	Urban	96.7%	3.3%
	Rural	92.9%	7.1%
Total		94.3%	5.7%

The present study indicates that a significant number of students have engaged in virtual learning, a finding that contrasts with the results of a study conducted in the former Yugoslavia. According to Zakarija-Grković et al. (2023), only 42% of students who received training for distance education felt adequately prepared for the experience. In a similar vein, a study by Mahat (2021) conducted across both private and public campuses found that 81.7% of students adopted online learning. This high level of participation underscores the commitment of students to continue their educational activities despite numerous challenges. However, disparities in participation across various regions suggest that factors such as regional differences in technological access, program-specific requirements, and the varying quality of digital infrastructure have likely influenced engagement levels.

Engagement Frequencies

The study shows that higher portions (40.9%) of respondents were sometime engaged and few (6.3%) were never engaged in virtual learning. Most (79.3%) of the respondents from Bageshwari campus and none from Narayan campus were always engaged in virtual learning. Most (81.0%) respondents from Narayan campus and few (20.7%) from Bageshwari campus were sometime engaged. More (43.3%) of female and (29.1%) of male were always and often engaged in virtual learning respectively. About half (47.5%)

respondents from urban area were always and few (8.2%) from rural area were never engaged in virtual learning.

Table 4

Frequency of the Engagement in Virtual Learning on the Basis of Sex, Campuses and Area.

Details		How Often			
		Always	Often	Sometimes	Never
Campus	Central Campus	26.3%	19.3%	50.9%	3.5%
	Babai Campus	40.4%	26.9%	25.0%	7.7%
	Bageshwari	79.3%	0.0%	20.7%	0.0%
	Narayan	0.0%	0.0%	81.0%	19.0%
Total		37.1%	15.7%	40.9%	6.3%
Sex	Male	25.5%	29.1%	38.2%	7.3%
	Female	43.3%	8.7%	42.3%	5.8%
Total		37.1%	15.7%	40.9%	6.3%
Area	Urban	47.5%	13.1%	36.1%	3.3%
	Rural	30.6%	17.3%	43.9%	8.2%
Total		37.1%	15.7%	40.9%	6.3%

Effective ICT infrastructure management, access to internet facilities, and teachers with basic ICT skills can significantly promote online and distance learning (Koh & Daniel, 2022). The present study reveals that most of the students have *sometime* engaged in virtual learning. The fact that many students had sometimes participated in virtual learning suggests to the challenges and obstacles in regular online participation as other study indicated (Khati & Bhatta, 2020). Despite the access to virtual learning environments and digital trainings, this irregular participation suggests that various factors may have prevented them from engaging fully or regularly. These obstacles are also present in other studies and likely include issues such as unreliable internet connectivity (Gautam & Gautam, 2021), limited access to advanced devices (Ghimire, 2020), unstable electricity, insufficient training, and potentially motivational or psychological barriers resulting from the challenges of virtual learning. Significant gap in the frequency of participants' engagement across campuses suggests the geographical severity may have the cause. Many universities struggled with the necessary infrastructure, technology, and affordability (Lamichhane, 2020), as well as the lack of self-efficacy of both teachers and students (Basnet et al., 2022), indicating multiple barriers (Khanal, 2019; Khanal, 2020).

Used ICT Devices

The finding found that most (87.4%) of the respondents were used Smartphone and very few (0.6%) were used Tablet on virtual learning. Similarly, very few (1.9%) from Bageshwari were used desktop, and few (15.8%) from Central Campus used laptop on virtual learning. The data shows that there is the variation of used ICT devices.

Table 5

Used Information Communication Technology Devices on the Basis of Sex, Campuses and Area.

Details		Which ICT device					
		Desktop	Laptop	Smartphone	Tablet	Other	None
Campus	Central Campus	-	15.8%	80.7%	-	3.5%	-
	Babai Campus	1.9%	7.7%	86.5%	1.9%	-	1.9%
	Bageshwari	-	-	100.0%	-	-	
	Narayan	4.8%	-	90.5%	-	-	4.8%
Total		1.3%	8.2%	87.4%	0.6%	1.3%	1.3%
Sex	Male	-	14.5%	80.0%	-	3.6%	1.8%
	Female	1.9%	4.8%	91.3%	1.0%	-	1.0%
Total		1.3%	8.2%	87.4%	0.6%	1.3%	1.3%
Area	Urban	3.3%	11.5%	83.6%	-	-	1.6%
	Rural	-	6.1%	89.8%	1.0%	2.0%	1.0%
Total		1.3%	8.2%	87.4%	0.6%	1.3%	1.3%

The study reveals that a significant number of students have utilized smartphones as a major ICT device for virtual learning, which aligns with the findings of Lakhey and Shakya (2022), where 97.5% of students reported using both laptops and mobile phones. Additionally, Diyal and Pandey (2024) found that 53% of students relied exclusively on mobile phones for their virtual learning activities. This commonalities using smartphones in virtual learning in different arena may be the mobility and connectivity offered by smartphones, coupled with the accessibility of mobile data, make them a practical choice for accessing learning resources, attending virtual lectures, and maintaining connectivity within virtual classrooms, as noted by Ishitaiwa (2016) in a study conducted in the UAE.

Internet Access

This study found that two third (55.8%) of the respondents had mobile data and very few (1.4%) of the respondents had no internet access. In comparison to male, higher (36.6%) female had access in mobile data. The data surprises that only (14.5%) of the respondents from urban area had the internet access of wifi.

The data show that a significant proportion of students have accessed mobile data for internet. This finding aligns with previous studies, such as one involving nursing students, where 44% used mobile data for online classes (Khagi et al., 2021), and a more recent study by Diyal and Pandey (2024) found that 87% of students utilized broadband services. Additionally, the findings contrast with another study in Chitwan, Nepal, where 14.3% of students used data packages. These results indicate a widespread dependence on mobile data and broadband, suggesting that internet connectivity options vary across regions, potentially influenced by factors like infrastructure and accessibility. This, in the

context of the research area, highlights the importance of mobile networks in facilitating virtual learning.

Table 6

Types of Internet Access during Virtual Learning on the Basis of Sex, Campuses and Area.

Details	ADSL	Wireless	Mobile Data	Other	None	Total
Sex						
Male	5.2%	10.5%	19.2%	0.0%	0.6%	100.0%
Female	8.1%	17.4%	36.6%	1.2%	1.2%	100.0%
Total	13.4%	27.9%	55.8%	1.2%	1.7%	100.0%
Area						
Urban	9.3%	14.5%	15.1%	0.0%	0.6%	100.0%
Rural	4.1%	13.4%	40.7%	1.2%	1.2%	100.0%
Total	13.4%	27.9%	55.8%	1.2%	1.7%	100.0%
Campus						
Central Campus	5.8%	18.0%	11.6%	0.0%	0.0%	100.0%
Babai Campus	5.2%	5.8%	19.2%	0.6%	1.2%	100.0%
Bageshwari	1.7%	1.2%	15.1%	0.6%	0.0%	100.0%
Narayan	0.6%	2.9%	9.9%	0.0%	0.6%	100.0%
Total	13.4%	27.9%	55.8%	1.2%	1.7%	100.0%

Used Digital Platforms

The findings showed that most (72.3%) of the respondents used zoom and about half (47.4%) of respondents used social media. Similarly, many respondents (19.3%), (14.3%), (6.6%) from Central campus, Babai campus and Narayan campus respectively used zoom but many (10.0%) from Bageshwari used social media at the time of virtual learning.

The findings reveal that Zoom was the predominant platform for virtual learning in the study area. This finding aligns with the observations of Almahasees et al. (2021), who conducted a study in Jordan. They noted a similar reliance on common online platforms such as Zoom and Microsoft Teams for offering interactive online classes. Additionally, they found that WhatsApp was used for communication with students outside of class.

Furthermore, a study by Diyal and Pandey (2024) revealed that 52% of students utilized Zoom and Messenger. In our study, Zoom was identified as the preferred online platform (Lakhey & Shakya, 2022).

Table 7

Digital Platforms used by the Respondents on the Basis of Sex, Campuses and Area.

Details	Zoom	MS Team	Google Meet	Google Classroom	Moodle	Social Media	Mass Media	None	Total
Sex									
Male	14.7%	1.2%	4.6%	6.6%	1.5%	11.6%	1.9%	0.4%	100.0%
Female	29.7%	0.8%	2.7%	3.5%	0.0%	18.1%	1.9%	0.8%	100.0%
Total	72.3%	1.9%	7.3%	10.0%	1.5%	29.7%	3.9%	1.2%	100.0%
Area									
Urban	17.0%	0.8%	2.3%	3.5%	0.0%	12.4%	1.2%	0.4%	100.0%
Rural	27.4%	1.2%	5.0%	6.6%	1.5%	17.4%	2.7%	0.8%	100.0%
Total	72.3%	1.9%	7.3%	10.0%	1.5%	29.7%	3.9%	1.2%	100.0%
Campus									
Central	19.3%	1.2%	1.2%	2.7%	0.8%	10.8%	1.5%	0.0%	100.0%
Babai	14.3%	0.0%	5.0%	7.3%	0.8%	3.9%	1.5%	0.8%	100.0%
Bageshwari	4.2%	0.8%	0.0%	0.0%	0.0%	10.0%	0.8%	0.0%	100.0%
Narayan	6.6%	0.0%	1.2%	0.0%	0.0%	5.0%	0.0%	0.4%	100.0%
Total	72.3%	1.9%	7.3%	10.0%	1.5%	29.7%	3.9%	1.2%	100.0%

Another higher level study, which was not aligned with the study, found that only 7% of students used Zoom (Bhowmik & Bhattacharya, 2021). Similarly, this is not consistent with a study on the implementation of online learning platforms in rural and urban primary schools, which reported that WhatsApp was the most widely used, with Zoom being used by only 33% (Riastini et al., 2022). The reason this study reports unlike mine may be elementary school children have not developed the ability to use Zoom. However, despite Zoom being the preferred tool for maintaining virtual learning continuity in different arena, students often resorted to social media platforms like Messenger due to unstable network connectivity. This highlights the reliance on alternative platforms when technical challenges disrupt access to primary tools.

Forms of Virtual Learning

The study found that most (74.2%) of the respondents had engaged in virtual learning by live presentation and discussion and following this form half (50.3%) of the respondents had interacted in messenger. In this way, very few (2.9%) respondents practiced digital exercises. More than one-fourth (26.4%) of the respondents from rural areas participated in live presentations and discussions. Additionally, many respondents (16.2%) from the Central Campus engaged in live presentations and discussions during virtual classes. It means that many respondents usually during crisis engaged in their virtual learning by means of live presentation and discussion. Following this, they sometimes interacted via Messenger and listened to live recordings to continue learning during the crisis.

Table 8

Forms of Virtual Learning on the Basis of Sex, Campuses and Area.

Details	Live Presentation and Discussion	Live Break-up Groups and Discussion	Digital Exercise	Live Recordings	None	Total
Sex						
Male	15.2%	2.5%	1.1%	2.9%	1.8%	100.0%
Female	27.4%	1.1%	1.8%	11.9%	1.8%	100.0%
Total	74.2%	3.6%	2.9%	14.8%	3.6%	100.0%
Area						
Urban	16.2%	0.7%	11.9%	1.1%	1.8%	100.0%
Rural	26.4%	2.9%	17.0%	1.8%	1.8%	100.0%
Total	74.2%	3.6%	28.9%	2.9%	3.6%	100.0%
Campus						
Central	16.2%	1.8%	9.7%	1.1%	2.5%	100.0%
Babai	14.1%	0.0%	7.9%	0.0%	0.7%	100.0%
Bageshwari	7.2%	0.7%	9.7%	1.8%	0.0%	100.0%
Narayan	5.1%	1.1%	1.4%	0.0%	0.4%	100.0%
Total	74.2%	3.6%	28.9%	2.9%	3.6%	100.0%

The findings indicate that a substantial of respondents engaged in virtual learning through live presentations and discussions, reflecting a widespread preference for interactive and synchronous teaching methods. This aligns with Atashinsadaf et al. (2024), who found that students commonly request a combination of lectures and visual presentations. Additionally, Lakhey & Shakya (2022) noted that students valued discussions between teachers and students, deeming them crucial for effective online classes. Zakarija-Grković et al. (2023) further highlighted that during the pandemic, synchronous lectures became the dominant mode of learning. The preference for live presentations and discussions, as reflected in the findings, highlights the importance of real-time interaction in virtual learning environments. Since, this form of learning promotes active participation, enhances engagement, and supports a more interactive and dynamic educational experience, the virtual practices in the study area seems somehow effective.

Limitations

This study is limited by its cross-sectional design, which captures a snapshot of practices and perceptions rather than long-term trends. Additionally, the sample may not fully represent all student experiences due to varying levels of digital literacy and access across different campuses.

Conclusion

The transition to virtual learning at Mid-West University has been partially successful, but it also highlights several critical areas needing improvement. The research found that a significant proportion of students received digital training, primarily focused on using Zoom, which became the predominant platform for virtual learning. While engagement rates in virtual learning were high, they were not always consistent. This inconsistency suggests that although students made efforts to adapt, challenges such as internet connectivity—largely dependent on mobile data—affected their experience.

Smartphones emerged as the primary ICT device, likely due to their accessibility and portability for accessing virtual learning. Despite challenges like unstable internet connections and a lack of advanced technological devices, students primarily engaged in virtual learning through live presentations and discussions. This indicates a strong preference for interactive and real-time learning experiences in a virtual format.

These findings illustrate the resilience and adaptability of students in navigating the demands of virtual learning. They also emphasize the need for institutions to address diverse ICT needs and improve internet access to ensure consistent and equitable engagement in virtual education.

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