

Challenges and Responses when Using Mobile Phones in Online Learning and Instruction

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ABSTRACT

This study explores the challenges experienced by the students brought about by the sudden shift in the educational landscape caused by the COVID-19 pandemic. The study utilized mixed methods and was conducted using a descriptive research design and simple random sampling technique. Proposed solutions to address said students' challenges are also highlighted by the researchers, with the hope that this will aid the school administrators in ensuring continuity of learning amidst a pandemic scenario.

Keywords: online learning, instruction, challenges, responses, COVID-19, educational landscape

INTRODUCTION

The COVID 2019 crisis has had a massive effect not only on financial, psychological, and sociological dimensions but also, and especially, on the educational domain, not only in the Philippines but around the world. The virus initially surfaced in December 2019. It quickly became a pandemic, forcing institution closures and, ultimately, the transfer of all levels of educational entities to distance or blended learning in the new normal education. As a result, the usual delivery of teaching and learning in education has changed, and online learning has been arranged. To meet the urgent need for engaging effective instructional modalities, colleges and academic institutions around the world have adopted various approaches such as distance learning, online education, and blended learning, which is a brief blip in education caused by the unexpected appearance of the pandemic.

In a worldwide platform, UNICEF (2020) claimed that school and university restrictions had impacted more than 1.5 billion students of all ages. Restrictions have disproportionately impacted students. With the highest priority being to provide quality education as an essential human right, curriculums around the world have been forced to develop various methods to instantly preserve education. UNESCO (2020) added that this does not take into account resolving issues pertaining to the difficulties of each individual student. In general, the educational system appears unprepared and has unpredictable implications both during and after the crisis (Bozkurt & Sharma, 2020).

The practice of using mobile phones for academic purposes in 2020 can be classified as rife. With the emergence of the COVID-19 epidemic and a significant shift in learning worldwide to distance learning, the need for students to access academic engagement and knowledge via mobile phones has become undeniable. The widespread usage of mobile phones has resulted in not only a favorable educational experience but also calls into question students' knowledge and skills acquisition through the exclusive use of mobile phones in distance learning. Because most students lack alternative devices for those who rely solely on mobile phones to continue their education during this pandemic, it is critical to adapt existing educational methodologies in the curriculum towards the advancement of mobile phones and their limitations in distance and blended learning settings, such

as the creation of activities and other learning requirements.

As a matter of fact, distance or blended learning demonstrates a technological inequality among Filipino students in the Philippine setting (Santos, 2020). This current scenario in online education may increase existing disparities, which may result in hurdles to online learning. According to a survey done by Social Weather Stations (SWS) in March 2021, the majority of Filipino distance learning students use a smartphone to enable them to continue their education amidst the pandemic.

In addition, we must have a true grasp and profound knowledge of the undeniable reality that not all students, specifically college students, are provided with the most preferable gadgets, aside from mobile phones. Mobile phones are frequently the only instrument for accessing educational resources in the context of distance learning, as evidenced throughout civilization during the mandated transformation of educational institutions at all levels to an online educational structure in response to the threat of COVID-19.

Furthermore, only a few studies on the sole use of mobile phones in online learning and instruction (submission of course requirements such as the type and kind of activity or activities assigned by the teacher) have been conducted. There are also very few studies that identify the internal (load budget, communication access, span of attention, technology capability) and external (gadget capability, connectivity) challenges met by students using mobile phones in online learning and instruction. No literature was also found on the use of mobile phones by students taking the Gen Ed courses, which by nature are multi-disciplinary (language, math, science, and social science). As a result, the researchers would like to investigate the challenges that students face when using mobile phones, as well as the responses they make to learning and instruction.

Research Objectives

- Identify the type/unit of mobile phone used by General Education students in online learning and instruction.
- Identify the challenges met by General Education students using mobile phones.
- Determine the level of internal and external challenges in using mobile phones.
- Develop solutions to address students' challenges with cellular devices in online learning and teaching.

The Relevance of the Study

This research will offer novel perspectives and solutions to the issues that students face when using mobile phones for online learning and instruction.

Specifically, this study will benefit the following:

Academic institutions and administrators- Through this research, academic institutions and administrators will be able to develop curriculum solutions that will assist students who solely use mobile phones for online learning to obtain a quality education using the method of virtual learning and instruction.

Parents- this study may convince parents to consider giving time while the student is taking an online class. That may help the students focus on the discussion and have an engaging and meaningful learning experience in the online learning modality of education as well as provide awareness of the difficulties students experience in the online teaching and instruction modality.

Students- They will directly benefit from this research as its findings will be evidence with regards to the challenges that they experience in online learning and instruction, specifically those students who solely use mobile phones as a tool in online learning.

Future researchers- This study discusses the difficulties that college students face when using cellular phones for virtual educational and instructional purposes. As a result, the findings of this research could indeed be utilized in future discussions about the various issues that arise in online learning and instruction.

Scope and Limitations

This study focused on students at Eastern Visayas State University who took General Education Courses across year levels and attended online classes using only mobile phones. Challenges encountered by these students while attending online classes and working on class activities while using mobile phones were carefully examined. Recommendations were laid out to address the said issues.

REVIEW OF RELATED LITERATURE AND STUDIES

The review of relevant literature is divided into four sections. The first section of this chapter will highlight the onset of flexible learning methodologies to accommodate the new normal curriculum. The second section will look at how innovation is used in virtual teaching and learning. The third section will concentrate on the difficulties of using advanced technologies in virtual teaching and learning. Finally, we will briefly explain the areas of concern in the use of digitalization in the execution of virtual student learning.

The Emergence of Flexible Learning Modalities The COVID-19 virus outbreak has impacted the educational experience, causing the education system to shift away from the usual face-to-face teaching and learning process and toward more flexible learning methodologies. This shift had to have an evident effect on education curriculum and instruction, impacting both students and educators. Since academic institutions are unable to resume usual face-to-face classes, the Commission on Higher Education was forced to enact a strategy under CHED Memorandum No. 4, Section 2020, Implementation of Flexible Learning. The new approach allows the process of education and learning to experiment with new methodologies and approaches that provide more flexibility in terms of domain, location, and people involved, such as, but not limited to, the utilization of technological capabilities. The program's conception and execution encompass the utilization of online and non-digital technological means, which include face-to-face, in-person classroom instruction, out-of-classroom learning, or a combined effect of teaching approaches (CMO No. 4, s. 2020). The flexible learning methodology is deeply rooted in the students' necessities. The primary goal is to provide students' learning with the greatest amount of flexibility in order to accommodate the various necessities of students in areas such as location, pace, methodology, and learning products (Giray, 2022).

The Utilization of Technology in Online Learning and Instruction Technology is one of the most powerful shaping factors in today's educational landscape, considering that in the flexible learning modality, the utilization of new tech is encouraged to facilitate the teaching and learning process. By connecting the world, technology creates many more opportunities, transforming the face of teaching and learning and paving the way for further access to education. Different educational technologies are undeniably advantageous to educators and students alike, and the incorporation of technology into instruction enables the effective application of technology has eliminated boundaries for both students and teachers, allowing them to collaborate using advanced educational technologies (Roy 2019).

This facilitates active engagement with the learning material, making the learning process interactive and engaging. Learners are able to use interactive software and, through the internet, they are able to research real issues happening in society. Technology also offers a software package, data management, file use, mind-mapping, exploration, strategizing, entertainment, and the World Wide Web (www) to make the educational method more rewarding and effective. This may include such diverse tools as videoconferencing, digital television, and electronic whiteboards, in which it creates virtual communities that can connect in real time with learners anywhere in the world (Ghavifekr and Rosdy, 2015). Receiving feedback and acquiring others' opinions made it easier, making learners refine their thinking and develop higher levels of comprehension, deeper understanding, critical thinking, and problem-solving skills (Roy, 2019) The notion that students are knowledgeable about technological advancements and that their inclusion will help with teaching and learning aspects, resulting in successful learning,

The table below shows how the extent of technology that will be utilized in the delivery of pedagogical approaches is focused on student interconnection (CMO No. 4, s. 2020).

Classification	Availability of Devices	Accessibility to the Internet	Level of Technology Literacy	Approaches
High Level Technology	Laptops, mobile phones, tablets, desktop	Fast	Proficient	Online Learning or Blended learning technology
Medium Level Technology	Mostly available phones	Slow	Advanced	Macro and micro learning approach (a mix of offline and online activity)
Low Level Technology	Some mobile phones or no technology	Poor or no internet connection	Beginner	Self-instructional modules/mostly offline activities

Challenges in the Utilization of Technological Means in Online Learning and Instruction

Unstable Internet Connection

The totality of digital learning is reliant on innovation, the internet, and other devices. Educators and students who have poor connectivity may be denied access to virtual education. The dependence on modern advancements for online classes, along with the requirement of those devices, constituted a major challenge for education systems, teachers, and students (Adedoyin and Soykan, 2020). Flexible learning may be delivered using online or blended learning (CMO No. 4, s. 2020). Hence, internet connectivity is considered one crucial component (Tarrayo, Paz & Gepila Jr., 2021). Moreover, based on the teachers' narratives, the students shared the same experience with the teacher because some of them resided in an area where connectivity ranged from poor to no internet connection. In addition, whenever students joined their synchronous classes, they kept on getting disconnected while other students were choppy when talking (Giray, 2022).

Socio-Economic Aspect

As an outcome of socioeconomic disparities, some learners depend solely on computers and chose to undertake virtual classes using cheap cell devices. Fishbane and Tomer's (2020) study results on what students with no connection to the internet should accomplish during the COVID-19 pandemic display that as the extent of poverty in society intensifies, the level of internet accessibility fails quickly, and, as a result, students with hardly any or minimal socio-economic strength to obtain bandwidth are the most susceptible to falling behind or experiencing complexities in meeting with others in digital learning.

Expertise in the Digital Realm

Expertise on technology is a variety of abilities, understandings, and behaviors needed to carry out roles and responsibilities, including critical thinking, data management, and cooperation with regard to accuracy, effectiveness, and moral standards when utilizing ICT and electronic devices (Ferrari, 2012). Libraries should implement the digitalization of learning methods during this pandemic to deliver effective solutions to teachers, students, and other decision-makers through a digital version. Learners and educators with limited technology skills may be unable to make the most of the online library. Teachers and students with limited computer literacy risk falling behind in e-learning (Adedoyin and Soykan, 2020).

Heavy Workload and Intensive Preparation

Teachers must weigh the suitability of selecting technology for pedagogical approaches. Likewise, educators should think about its registration, accuracy of information, interaction, adaptability, cultural relevance, and qualities, along with its relevance, in view of its content, depth, institution, framework, and knowledge design (Huang et al., 2020). An ensuing discussion showed that the educators undertook strenuous preparatory work in the delivery of virtual learning, particularly in the readiness of their learning materials, based on the data accumulated. The educators had to prepare their learning materials in different modes, such as learning packets,

PowerPoint presentations, and lecture videos, to cater to the students' needs based on their capabilities. Moreover, one teacher emphasized that video recording is a task (Giray, 2022). On the other hand, students also raised their concern about the difficulty of complying with the activities considering the technological devices used. Teachers also contribute to the volume of work as they are in charge of converting their class materials to be learner-friendly on e-platforms. This massive task is likely to result in unanticipated monetary and time expenses (Akkoyunlu & Soylu, 2006).

Possibilities for an Increase in Quality in the Utilization of Technological Devices in Virtual Learning and Instruction

It is clear that e-learning has played an important role in mitigating the impact of this pandemic on classroom instruction by providing the sole device for curriculum strategies, delivery, and evaluation. To address capabilities and skills as an urgent virtual educational conundrum, Ala-Mutka et al. (2008) proposed that academic institutions do not need to create a separate system for learning technology capabilities but rather that it should be incorporated into the process of education across all disciplines, while Omotayo and Haliru (2020) added that students should be motivated to gain online expertise in order to maintain meaningful modernization. Virtual learning facets are technologically motivated and reliant on internet connectivity. As a key component of their organizational sociocultural commitments, educational establishments can work with telecommunications companies either to supplement the expense of internet subscriptions or offer free internet activity to learners and instructors. To help address the connectivity difficulties, teachers should direct their study efforts toward the advancement of a unified virtual learning approach that is relevant to all fields of study. The worldwide acknowledgement and encounter of modern e-learning (also known as urgent distant learning) will undoubtedly result in circumstances in which both students and instructors will become accustomed to the utilization of technological instruments for effective curriculum, and this utilization will undoubtedly extend further than school and into the workplace. Virtual learning will undoubtedly continue, and learning will become increasingly hybrid. It is critical to resolve such difficulties in order to conform to shifts in delivering quality education and an effective teaching and learning methodology.

METHODS

This chapter describes the study design, location of the study, participants in the study, research tools, data collection procedures, and analysis.

Research Design

The study utilized mixed method. This paper was conducted using descriptive research design and the simple random sampling technique to gather information for assessing the stated assumptions as well as answering questions about a recent condition related to the current study's topics.

Research Locale

This study was conducted at Eastern Visayas State University, Tacloban City, Philippines.

Research Participants

The participants of this research are a total of 199 students. Specifically, the respondents are those students who use cellphones while attending General Education courses.

Research Instrument

The instrument of this study utilized a self-structured survey instrument and with a follow-up question to the respondents' experiences when using mobile phone in online learning. Google form was utilized for the easy gathering of information as the respondents are not yet allowed to enter the university premises. Data privacy was discussed to the participants as to the security of their information.

Data Gathering Procedure and Data Analysis

To gather data for this study, the researchers reached out to the respondents through reliable online social media platforms to inform them about the study to be conducted and give them insights about it. Before sending out the survey questionnaires, the researchers first asked for the respondents' consent and gave them assurance that all data that will be gathered from them will be handled with confidentiality and will only be used for the sole purpose of this study through a waiver generated using Google Forms. The respondents were given ample time to accomplish the survey. Since the survey was conducted using Google Forms, the responses were automatically stored. The researchers then downloaded the file that contained all the responses after the target number of responses were collected. After gathering all the needed data, the researchers tallied and tabulated the results.

The data gathered were tabulated, analyzed and interpreted.

RESULTS AND DISCUSSION

This chapter presents the analysis and findings from the answers of the respondents during the interview.

Table 1. Operating System Used by Students for Online Learning Modality

System	Frequency	Percent (%)
Android	194	97.5
IOS (iPhone)	5	2.5
Total	199	100.0

Table 1 shows the distribution of operating systems used by the students for online learning. The table shows that, the Android operating system was utilized by the majority of respondents for virtual learning, with a frequency of 194 out of 199 respondents, or 97.5 percent.

Meanwhile, there were only 5 (2.5%) respondents who used an IOS (iPhone) operating system for online learning.

Table 2. Internal Challenges

Internal Challenges (IC)	Distribution, <i>n</i> = 199 (%)					Mean
	Never	Seldom	Sometimes	Often	Always	
I can sustain focused attention for the entire class duration using my mobile phone as the medium.	4 (2.0)	11 (5.5)	123 (61.8)	42 (21.1)	19 (9.5)	3.31
I can navigate learning management systems using my mobile phone (i.e., Google Classroom, Google Meet, and Facebook).	0 (0)	2 (1)	46 (23.1)	63 (31.7)	88 (44.2)	4.19
I can meet deadlines for the submission of requirements using my mobile phone.	3 (1.5)	7 (3.5)	88 (44.2)	54 (27.1)	47 (23.6)	3.68
I cannot readily and effectively understand the lessons in the online discussion through the use of my mobile phone.	8 (4)	22 (11.1)	133 (66.8)	30 (15.1)	6 (3)	3.02
I can perform the assigned tasks/requirements (i.e., writing a paper, infographic, digital slogan, video, etc.) as	7 (3.5)	20 (10.1)	70 (35.2)	42 (21.1)	60 (30.2)	3.64

directed by my teacher using my mobile phone.						
Distractions such as phone calls, messages, and social media account notifications have no effect on my concentration during online classes.	13 (6.5)	30 (15.1)	109 (54.8)	30 (15.1)	17 (8.5)	3.04
Overall Mean						3.48

Based on the gathered data as shown in Table 2, most of the respondents sometimes encountered internal challenges such as: focusing for the entire class duration (61.8%); meeting deadlines for the submission of requirements (44.2%); understanding lessons in the online discussion (66.8%); performing the assigned tasks/requirements (i.e. writing a paper, infographic, digital slogan, video, etc.) (35.2%); and occurrences of distractions such as calls, messages, and social media account notifications (54.8) while using mobile phones as a medium of learning. Meanwhile, 88 (44.2%) of the respondents can always navigate learning management systems using their mobile phones (i.e., Google Classroom, Google Meet, and Facebook). In addition, it is also shown in the table that the overall mean score was 3.48 in which it implies that internal challenges *often* affect the students' performance in online classes.

The respondents were solicited for responses to support their choices. The first statement in table 2 on the question "what are the reasons why they lose focus during online classes?" showed that out of 178 responses, 86, or 48%, were due to poor or unstable signal, resulting in internet lagging, choppy audio, and blurry screen. Also, the sudden pop-up of notifications, text messages, and calls also disrupts focus.

Moreover, 25% of the responses (44 out of 178) narrated that their loss of focus was due to distractions from noisy surroundings, multi-tasking such as performing household errands or chores, or attending siblings or children.

Other identified reasons for disruptions are mobile phones getting "low battery", overheating, full storage, old model, used up data load, and poor weather.

Statement 3 in table 2 implied that 46% (62 out of the 134) of the responses pointed to the cause of delay in submitting requirements via online goes "unsent" because of unstable connection and they have no money to buy load/data for the cellphone. Among other significant reasons why they cannot submit requirements on time are that they are preoccupied with work at home, as working students, activities in the community, and the limited capacity of the mobile phone to create assignments (such as creating PowerPoint presentations, infographics, etc.).

Statement 4 in Table 2: 71 out of 142 or 50% of students' responses resonated that sometimes they cannot effectively understand the lesson during online discussion due to teachers' choppy and poor audio, talking too fast, limited time to answer questions/concerns raised, and students' shame to ask questions or seek clarification. Moreover, other responses narrated that sometimes they cannot effectively understand the lesson because their eyes are getting tired from viewing the screen; PowerPoint presentations (PPT) are too small to read from a mobile phone screen; it is difficult to multi-task, such as taking notes while listening; and ear irritation caused by prolonged wearing of headsets or earphones.

In statement 5 of table 2 on the ability to perform the assigned task given by the teacher, 79 out of 97, or 81.4%, of the responses signified that they can perform the assigned tasks using mobile phones. Applications are readily downloadable from the net, which can help in making assigned activities such as infographics, digital slogans, videos, etc. It is implied that students possess the needed skills in creating those activities. On the other hand, there were 20 responses pointing out the problem with the compatibility of applications with old model mobile phones.

Finally, among the internal challenges experienced, internal challenges 1, 4, and 6 are sometimes encountered.

While internal challenges are 2,3,5 answered often.

Table 3.External Challenges

External Challenges (EC)	Distribution, <i>n</i> = 199 (%)					Mean
	Never	Seldom	Sometimes	Often	Always	
My mobile phone cannot access a stable internet connection in our area.	5 (2.5)	26 (13.1)	114 (57.3)	39 (19.6)	15 (7.5)	3.17
Using a mobile phone is an effective tool for online learning.	8 (4)	21 (10.6)	81 (40.7)	45 (22.6)	44 (22.1)	3.48
My parent/guardian provides a sufficient load budget for my mobile phone intended for my online learning.	8 (4)	13 (6.5)	82 (41.2)	44 (22.1)	52 (26.1)	3.60
When using a mobile phone in online learning, the teacher-student interaction is greatly enhanced.	0 (0)	16 (8)	88 (44.2)	53 (26.6)	42 (21.1)	3.61
Group work assignments or activities among learners are achieved with the use of mobile phones.	0 (0)	18 (9)	90 (45.2)	44 (22.1)	47 (23.6)	3.60
The instructional materials, such as PPT, videos, reading materials, etc., used by my teachers can be downloaded and viewed on my mobile phone.	1 (0.5)	8 (4)	54 (27.1)	49 (24.6)	87 (43.7)	4.07
Overall Mean						3.59

Based on the gathered data as shown in Table 3, most of the respondents sometimes encountered external challenges such as no stable internet connection (57.3%); effective tool for online learning (40.7%); sufficient load budget (41.2%); teacher-student interaction (44.2%); and submission of group work assignments/activities (45.2%) when using mobile phones. Meanwhile, 87 (43.7%) of the respondents can always download and view instructional materials such as PPT, videos, reading materials, etc. using their mobile phones. It is also shown in the table that the overall mean score was 3.59 in which it implies that internal challenges *often* affect the students' performance in online classes.

The solicited responses for statement 2 in table 3 were positive regarding the utilization of mobile phones as a useful approach for online learning. The responses were: mobile phones are affordable, portable/handy, more convenient to find a spot for strong connectivity, mobility to an area conducive for listening, and it is like a normal class where students and teachers can interact with each other. To them, learning can be more effective when using mobile phones with higher specifications and storage.

Finally, among the external challenges experienced, external challenges 2, 3, 4, and 6 are often experienced. While external challenges are answered "sometimes".

Table 4.Suggested Other Forms of Blended Learning Modality

Learning Modality	Frequency	Percent (%)
Modular (use of Module with no online session)	22	11.1
Modular (use of Module with limited online session)	85	42.7
Hybrid (Limited Face-to-Face and Online Session)	112	56.3
Total	199	100.0

The distribution of the students based on their suggested other forms of learning modalities is shown in Table 4. It was revealed that most of the respondents suggested a hybrid (limited face-to-face and online session) form of learning modality, which accounts for 56.3% (112 out of 199) of the total respondents. Meanwhile, there were 85 respondents (42.7%) who suggested a modular (with limited online sessions) and 22 respondents (11.1%) who suggested a modular (with no online session) form of learning modality.

The following reasons were cited as justifications for selecting a hybrid learning modality: 1.) With limited face-to-face time, students will be more focused and learn better. 2.) increased interaction between students and teachers; 3.) limited face-to-face mode for difficult Gen Ed courses, such as Math; 4.) students will become more responsible when meeting face-to-face; and 5.) students with poor or unstable internet connections will be able to catch the lessons.

Respondents further suggested students who will be prioritized for a limited face-to-face modality are those with laboratory courses and graduating students.

Table 5. Retention of Blended Learning Modality in Teaching General Education Courses to be Retained with the Resumption of Face-to-Face Classes

Responses	Frequency	Percent (%)
Yes	113	63.48
No	24	13.48
Undecided	41	23.04
Total	178	100.0

Respondents were elicited to suggest whether to retain the blended learning modality in teaching the General Education courses even when face-to-face classes resume. There were 113 out of 178 (63.48 %) who responded "yes," while 13.48 % (24) said "no." This implies that students most preferred to take the General Education courses by means of a blended learning modality.

CONCLUSION AND RECOMMENDATION

Conclusions

The study found that students widely use mobile phones, mostly those running Android, for online learning and academic tasks. Most students have the tech skills needed to navigate learning management systems and complete assignments. However, they face both internal and external challenges that often connect with each other. External issues include poor internet access, limited device capacity, distractions in their environment, and power outages. These contribute to internal struggles like reduced focus, multitasking, and difficulty understanding lessons. Teacher-related factors, such as unclear explanations and poor audio quality, also impact how engaged students are in their learning.

Despite these difficulties, students value mobile phones for being affordable, portable, easy to use, and convenient. They recognized that while these devices can be good learning tools, technical limits and connectivity problems prevent them from being fully effective. In terms of learning preferences, students preferred hybrid and modular formats, and they strongly recommended flexible learning approaches, especially for general education subjects that benefit from in-person interaction.

Recommendations

1. Ensure all learners have appropriate devices and stable connections. Students must have access to capable mobile phones. Those with weak Internet connections have to relocate to areas with better reception or use modular arrangements.
2. Reduce distractions while taking online lessons. Learners should wear noise-canceling headsets or earphones, turn off notifications, and refrain from multitasking. Teachers need to remind students of these

habits frequently.

3. Intensify parental and institutional support. The university, in its Student Affairs Office, can hold orientations to educate parents about their role in providing the needed gadgets, accessories, and home environment conducive to learning without any form of distraction. CHED and DOST are urged to grant financial aid or loans for disadvantaged students to procure vital devices.
4. Improve instructional presentation. Teachers must prepare interesting, readable, and well-organized PowerPoint presentations, pay attention to clarity and pacing in lectures, and explain complicated ideas in simple terms. Noise-canceling speakers can be employed to enhance sound quality.
5. Sustain effective digital learning systems. The university should maintain its practice of effective online instruction using convenient learning management systems like Google Classroom, which continues to support seamless online classes.
6. Align academic load with students' capacities. Educators are encouraged to set tasks that are commensurate to what the learners can tackle, while learners are urged to undertake only those work commitments that would allow academic concentration.
7. Adopt flexible learning modalities. General education classes may be offered in blended, hybrid, or modular formats even after full in-person instruction resumes.

BIBLIOGRAPHY

1. Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: the challenges and opportunities. *Interactive Learning Environments*, 1-13Z
2. Akkoyunlu, B., & Soyly, M. Y. (2006). A study on students' views on blended learning environment. *Turkish Online Journal of Distance Education*, 7(3), 43–56.
3. Ala-Mutka, K., Punie, Y., & Redecker, C. (2008). Digital competence for lifelong learning (policy brief). European Communities.
4. Angrist, N. (2022) Mobile phones can enable learning during school disruptions. Youth Impact, Fellow, University of Oxford. <https://theconversation.com/mobile-phones-can-enable-learning-during-school-disruptions-heres-how-186006>
5. Ferrari, A. (2012). Digital competence in practice: An analysis of frameworks.
6. Fishbane, L., & Tomer, A. (2020, March 20). As classes move online during COVID-19, what are disconnected students to do? Brookings. <https://www.brookings.edu/blog/the-avenue/2020/03/20/as-classes-move-online-during-covid-19-what-are-disconnected-students-to-do/>
7. Ghavifekr, S. & Rosdy, W.A.W. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science (IJRES)*, 1(2), 175-191
8. Giray, Cherie, (2022). Exploring Teachers' Experiences in the Delivery of Flexible Learning Amidst COVID-19 Pandemic
9. Guidelines on the Implementation of Flexible Learning (CHED Memorandum Order No. 4, series 2020). Retrieved date March 09, 2021. Retrieved from <https://ched.gov.ph/wp-content/uploads/CMO-No.-4-s.-2020-Guidelines-on-the-Implementation-of-FlexibleLearning.pdf>
10. Heba Saadeh, et.al. (2021) Smartphone Use Among University Students During COVID-19 Quarantine: An Ethical Trigger <https://www.frontiersin.org/articles/10.3389/fpubh.2021.600134/full>
11. Huang, R.H., Liu, D.J., Guo, J., Yang, J.F., Zhao, J.H., Wei, X.F., Knyazeva, S., Li, M., Zhuang, R.X., Looi, C.K., & Chang, T.W. (2020). Guidance on Flexible Learning during Campus Closures: Ensuring course quality of higher education in COVID-19 outbreak. Beijing: Smart Learning Institute of Beijing Normal University
12. [Omotayo, F. O., & Haliru, A. (2020). Perception of task-technology fit of digital library among undergraduates in selected universities in Nigeria. *The Journal of Academic Librarianship*, 46(1), 102097. <https://doi.org/10.1016/j.acalib.2019.102097> [Crossref], [Web of Science®],
13. Roy, Abhipriya. (2019). TECHNOLOGY IN TEACHING AND LEARNING. *International Journal of Innovation Education and Research*. 7. 414-422. 10.31686/ijer.Vol7.Iss4.1433.
14. Rybakova K., Bigelow C. (2021) The Role of Cell Phones in Online Learning, Connectivity and COVID. Thomas College, USA. <https://www.igi-global.com/chapter/the-role-of-cell-phones-in-online-learning-connectivity-and-covid/267>