Research Article

Educator's Practices and Challenges in the Utilization of Technological Tools in Instructional Delivery during COVID-19 Pandemic

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Abstract: COVID-19 Pandemic changed the way we teach and learn. Educators around the world need to adopt technological tools such as video conferencing and learning management systems for continuity. This study aims to determine the educator's practices and challenges in utilizing technological tools in instructional delivery during the Pandemic, it also identifies the skills and capability of educators in terms of technological readiness. Challenges which include possible opportunities as perceived by the participants were also enumerated. The researchers initiated a focus group discussion for the graduate students in the Philippines and Filipino teachers working abroad and a follow up questionnaire was floated. There are 32 total participants for the focus group discussion, and each participant shared their practices and challenges in the utilization of technological tools. The study results show that Filipinos working abroad have small challenges compared to the Filipino teachers in the home country.

Keywords: technological tools, learning management system

1. Introduction

Ready or not, teachers need to adapt to the changing environment due to the Pandemic which caused by COVID-19. Tens of thousands of schools worldwide closed in March 2020 as part of the effects of the COVID-19 pandemic blockade. Although schools partially reopened two months later in May in some countries, far-reaching restrictions remain in place, and it seems that any expectation of full opening is not yet predicted. Therefore, teachers face significant challenges in adapting to online education, maintaining at least a minimum of communication with students, and supporting students' learning and development. Professors and learners work hand in hand to continue overcome these challenges [1].

In this Pandemic that is often affected by rapid technological innovations and digitization, extensive school closures occurred, especially in educational contexts. Consequently, 'digitization in schools,' regardless of and before the COVID-19 Pandemic, has become an important issue. Thus, it is not only a matter of whether a lockdown can be compensated through the use of digital tools in online teaching by teachers and students but also a question about how the skillful teachers can contribute against the battle of the challenges of this Pandemic [2], [3].

The main objective of this study is to determine the Educator's Practices which includes skills and capability, and Challenges which includes opportunities in the Utilization of Technological Tools in Instructional Delivery during the COVID-19 Pandemic.

2. Methodologies

The method of this study is mixed with quantitative and qualitative. The researchers initiated a focus group discussion for the graduate students in the Philippines and Filipino teachers working abroad. There are 32 participants for the focus group discussion, and they are the same respondents who answered the Google Forms. Each participant shared their practices and challenges in utilizing technological tools and answered the online survey regarding their technological skills and capability.

Semi-structured interviews lasting 15 to 30 minutes each were used to collect data. The interviews aimed to evoke the pedagogical reasoning for the study participants' use of Web technology in their classes, their perspectives on the effect of Web-based teaching on their course design activities, and their perspectives on personal as well as other concerns and challenges in online course design.

3. Results and Discussions

All teachers have a mobile device, and a very limited or rare number of faculty have no laptops. The interview summary shows that Filipinos working abroad have small challenges compared to the Filipino teachers in the home country because prior to Pandemic, technological tools such as learning management systems are being fully utilized.

Every teacher has their own favorite sites and tools they used in teaching. While Moodle is known as the most popular learning management system [4], most of the schools in Thailand were using Google Classroom, which is previously known as GSuite (now Google Workplace). Google Classroom allows it easy to organize and manage all of your Google Apps tasks.

According to the teachers, student learning in this Pandemic is about using technology in the classroom, varying from conventional to high-tech solutions. The whiteboard, index cards, banners, audience response technologies (such as clicker technology), Google collaboration software, 3D printing, and wikis are all examples. Instructors can opt to use one or more of these resources to supplement the teaching and learning atmosphere in their classroom, depending on the course learning objectives and outcomes. Filipino teachers experience problems in internet connectivity. Although they can pay subscription fees, some areas in the Philippines do not have any available connectivity. In the case of Thailand educators, the Internet is not a problem.

Table 1 shows the Technological Skills of the Teachers

Technical Skills	**1**	**2**	**3**	**4**	**5**	**AWM**
I am relatively good at using the computer and applications	0	1	1	7	**23**	4.625
	0.00 %	3.13 %	3.13%	21.88 %	**71.88 %**	
I am comfortable surfing the Internet.	0	0	2	**22**	8	4.1875
	0.00 %	0.00 %	6.25%	**68.75 %**	25.00 %	
I am comfortable conducting searches, setting bookmarks, and downloading and uploading files.	0	2	2	12	**16**	4.3125
	0.00 %	6.25 %	6.25%	37.50 %	**50.00 %**	
I am comfortable installing applications and software and changing configuration settings on my computer.	0	1	9	**14**	8	3.90625
	0.00 %	3.13 %	28.13 %	**43.75 %**	25.00 %	
I know someone who can help me if I have computer problems.	0	1	4	**14**	13	4.21875
	0.00 %	3.13 %	12.50 %	**43.75 %**	40.63 %	

Table 1 shows the technical skills of the teachers in terms of distance education and operating computers. Generally, the majority of the teachers do not have any significant problems when it comes to technological skills. While the installation of applications and software might be a minor problem since it is the lowest among all statements, the practice may be outsourced.

And the majority of educators educate using various tools, including video, email, screen video conferences, online programs such as Zoom, Google Meet, and other video conferencing. They also agree that technologically illiterate as an educator is no longer acceptable especially in this time of Pandemic.

Educators also recognized that due to the Pandemic, the majority of them were forced to learn about technology. Filipino teachers asked help from family members to learn more about the utilization of technology because it is mandatory. Educators are also forced to upgrade hardware devices such as mobile phones, internet connectivity, and laptop computers. Participants' challenges and strategies agreed with other studies about several problems encountered and practices of other educators worldwide.

Table 2 Shows the Equipment Capabilities of the Teachers

Equipment Capabilities	**1**	**2**	**3**	**4**	**5**	**AWM**
My computer and Mobile devices run reliably on usable Operating Systems.	0	1	3	8	**20**	4.46875
	0.00%	3.13%	9.38%	25.00%	**62.50%**	
I am connected to the Internet with a reasonably fast, reliable connection for online learning.	0	0	12	**16**	4	3.75
	0.00%	0.00%	37.50%	**50.00%**	12.50%	
I have headphones or speakers and a microphone to use if a class has a videoconference.	0	1	1	12	**18**	4.46875
	0.00%	3.13%	3.13%	37.50%	**56.25%**	
My browser will play several common multimedia (video and audio) formats.	0	1	1	11	**19**	4.5
	0.00%	3.13%	3.13%	34.38%	**59.38%**	
	0	0	2	4	**26**	4.75

My Computer has a Word Processor, Spreadsheet, and Presentation.	0.00%	0.00%	6.25%	12.50%	**81.25%**	
I do not see any problem with the computer and equipment for online learning	0	0	8	**12**	**12**	4.125
	0.00%	0.00%	25.00%	**37.50%**	**37.50%**	

Based on table 2, the only problem that educators may encounter is the connectivity to the Internet.

Participants in Thailand emphasized that their schools also offered educational options for families during this Pandemic. Numerous parents have enrolled their children in an essential program offered by institutions.

Some parents have also enrolled their children in a blended curriculum offered by their institutions, which allows them to take in-person classes at school and engage in an online program at home. Others are participating in schools that have prolonged their facility closures would have to engage in a virtual platform before their buildings reopen.

Unlike in the Philippines, where full online classes have been implemented, Thailand teachers said that schools had been reopened while following the safety precautions.

4. Opportunities as Perceived by Educators.

Given that distance education has historically focused extensively on the usage of digital technology such as email, online classes, and document-sharing websites. The Pandemic has highlighted the importance of teachers developing their digital literacy. Though the utilization of multimedia tools is an essential part of the technical capabilities of teachers, many educators have already begun to use them, leaving them without an option.

Many teachers who lack the necessary expertise, skills, and tools to create high-quality online learning materials have been forced to adopt the technology despite the challenges. Similarly, several students who are unable to access technology directly have been forced to adopt the technology.

Consequently, participants agree that they have been expected to undertake a dual role during the crisis: they have had to educate students about technology while still teaching them how to use them.

Thus, the situation has emphasized the importance of enhancing technology-oriented and non-teachnology teachers through technology usage in the classroom. To meet immediate needs through school closures and facilitate the future growth of this form of instruction, institutions have immediately organized to provide distance education to their students.

While it is evident that teachers must accept the various technologies provided by different multimedia platforms, they must also be trained in the fundamental concepts of utilizing these resources efficiently. For instance, several studies found that adequately preparing a course produced as a video has a more significant effect on student participation than making and editing the video itself [5]–[8]. Planning an online course is very different from planning a face-to-face course. In other words, instructions using multimedia are more desirable to student learning than traditional materials.

Face-to-face instruction provides opportunities for student-teacher engagement that are difficult to replicate remotely, especially where distance educators lack sufficient experience. Thus, though certain distance education methods have undoubtedly shown their usefulness during school closures, the e-learning experience has served effectively during the Pandemic.

5. Conclusions

. Generally, all of the teachers do not have any significant problem when it comes to technological skills. While the installation of application and software might be a minor problem since it is the lowest among all statements, the practice may be outsourced. The only problem that educators may encounter is connectivity to the Internet. While it is evident that teachers must accept the various technologies provided by different platforms, the Pandemic provided them opportunities to improve their knowledge and expertise in utilizing technological tools in teaching.

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