Teachers' Perceptions and Experiences of using Digital Technology in Undergraduate Classrooms in Pakistan

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Abstract

The purpose of this study was to explore the perceptions and experiences of teachers about the use of technology in face-to-face and online classes. A qualitative case study design was adopted in this study. The year III and IV teachers of the nursing programme who were using technology in their teaching were invited to participate in this study. Data were collected through semi-structured interviews, class observations and analysis of the university's virtual learning environment course sites. The teachers felt that students wanted activities that were engaging, and through Mentimeter, Kahoot and Padlet this was possible in the class. With online classes, the teachers were using Microsoft Teams, whereas the students preferred the Zoom platform as they thought it was more user-friendly. It was also felt by the teachers that students do not give much preference to PowerPoint presentations now and want a variety that can enhance their learning experience. However, the teachers also faced issues with the computers or internet not working smoothly in the class and for this, they had to keep a backup plan in place. For online classes, the teachers shared course material on Whatsapp or Moodle course sites for students who could not come online during a specific time. The teachers also admit that their own ability to use technology in face-to-face or online classes counted a lot towards how their lessons shaped up. The findings concluded that the universities should provide sufficient support and training to teachers in using technology effectively for teaching purposes.

Keywords: Blended Learning, Educational Technologies, Online Learning, Teacher Perceptions

Introduction

Rapidly advancing technologies have revolutionized the way higher education institutions run and teach at the turn of the twenty-first century. It has also been seen that there has been a greater use of technology-related resources, such as emails, the Internet, and learning management systems. With that, the traditional teaching and learning processes have also been revolutionized by technology as it has the potential to remove the obstacles to education created by distance and time, allowing for greater access to lifelong learning (Del Campo et al., 2012). The demand for accessible alternatives to traditional real-time, campus-based training is expanding in response to meet the increased demand for chances for lifelong learning to keep up with social, economic, and technological advancement.

The current generation of students prefers digital literacy, and technology has made it easier for them to participate in the learning process (Huddle, 2019). Technology that was once expensive and limited has now advanced and become more affordable. In this digitalised age, the wealth of the world's information can be retrieved via a variety of electronic devices and technological platforms such as multimedia devices, cell phones, and computerization (Tosterud et al., 2013). In Pakistan, there is a fast-paced penetration of computers and the Internet in the personal lives of students and teachers. However, many teachers in educational settings in Pakistan still find it difficult to adopt new technologies and bring innovation to their classes (Khokhar & Javaid, 2016). A possible reason for this could be that teachers lack confidence and digital competence, as adapting to new pedagogies has always been challenging and a tedious task that requires the right skills and time (Kurji et al., 2015).

Not only is that, but methodical planning of technological additions to educational programs has become challenging when technology advances so quickly and unpredictably. An example of this would be the teaching in blended and on-line learning environments that requires different pedagogical approaches, and the previous experience is different for students and teachers. Therefore, it is important to find out how teachers use or do not use technological tools in their classrooms and what their perceptions and experiences are on using digital technology for teaching purposes.

In more advanced countries, much work and research has been carried out on using different technologies for teaching purposes and their effect on the motivation and engagement. The outcomes have demonstrated its effectiveness when used in educational contexts (Francis, 2017). However, very little has been done in Pakistan towards the use of interactive technology for educational purposes. The main reason for this may be the lack of learning and teacher training in managing different digital modes in the given environment. Therefore, this study would be an important development for educators in raising awareness and advancing knowledge about the kind of digital technologies teachers generally use for their teaching at universities in Pakistan. The need for this research is also significantly relevant as still not much has been known about how information communication technology is used in higher education in the context of Pakistan.

Objectives of the Study

The objectives of this study are:

1. To examine the use of digital technology by teachers in a face-to-face and online classes.
2. To examine the views and attitudes of teachers towards the participation and motivation of students to use technology for their courses.
3. To examine the obstacles teachers face using technology in their face-to-face and online courses.
4. To examine the kind of support teachers need to provide to students to make productive use of technology in their courses.

Research Questions

The below research questions are expected to direct the study:

1. 1. How is educational technology currently being used by teachers in a face-to-face and online classes?
2. What are the views and attitudes of teachers towards the participation and motivation of students in using technology for their courses?
3. What are the obstacles that teachers face while using technology in their face-to-face and online courses?
4. What kind of support do teachers need to provide to students to make productive use of technology in their courses?

Literature Review

Connectivism for Teaching

The convenience of connectivism theory makes it appropriate for educators to bring innovation in their teaching practice. In a study on the Connectivism and Connective Knowledge Course (CCK08), teachers had the opportunity to test the theory by connecting their thoughts and ideas across blogs and discussion forums, while reflecting and discussing what they think worked well and did not work for them (Lopes et al., 2014). The findings showed that the teachers were effectively exhibiting behaviours that they may wish to see in their students. The teachers in the study were participating in a large public knowledge network of people, blogs, wikis, and other activities and resources that they could use as exemplars for their students. Similarly, in their teaching, they can motivate students to use the web and Internet for scholarly resources while being selective in reaching the learning outcomes. The combination of interactive activities and web technologies allows teachers to create an interactive and realistic environment for students that helps increase their academic motivation and achievement (Duke et al., 2013).

Fouladchang (2018) investigated to observe the connectivism influence of the teaching method on academic self-efficacy and task importance compared to communicative teaching. The findings show that the connectivism instructional method provides distinctive opportunities to increase student self-efficacy and task value by increasing social interactions and diversity among the choices of activities. Consequently, the study favoured the application of connectivism instructional method in classrooms to increase the academic self-efficacy and task value in classrooms for students.

The concept of connectivism can be employed by teachers in a classroom using various pedagogies. For example, students can be divided into groups of three or four and each student can be assigned a role. In a group, a student can make a PowerPoint or Prezi to present the information on the given topic. While a second student can present using a blogging platform and a third student can create a movie or another similar technology while sharing an opposing view on the subject. After this, students can work together and develop a class presentation using their media platforms. In the end, the instructor can then use an e-platform like Edmodo to send a poll to students to do voting and see which group the class feels created the best presentation. This lesson will require the participation and active participation of the students, as they will take ownership of their work (Kizito, 2016). The role of a teacher here would be of an observer and facilitator that draws students' attention to specific learning opportunities through which they create learning networks.

The Use of Educational Technology by Teachers

Technology transforms the way teachers teach, providing them with effective ways to reach various groups of learners and assess their understanding through multiple means. When technology is successfully incorporated into subject areas, the role is then changed to the role of facilitator, setting project goals and providing guidelines and resources (Dhanda, 2015). Technology helps learning to become more meaningful and enjoyable for both students and teachers. As a result, teachers have an especially important role to play in implementing educational technology in classrooms. Many teachers find that incorporating technology in classrooms helps engage students in ways they are familiar with and they enjoy the learning experience, which eventually makes teachers' jobs easier.

Moreover, a teacher's role should not only be a technical one, but an intellectual one where individualized help is provided to keep students motivated (Malik & Agarwal, 2012). This requires monitoring and facilitation in keeping students

engaged and can be done by moving from student to student or group to group, providing suggestions and support for student activity.

Having said this, it is also equally important to first train teachers in order to change their pedagogy style, as some school districts in America added technology in their classes, but did not find it helping students' learning, and so removed it from their curriculum (Malik & Agarwal, 2012). The main reason for this downside was that the district did not get all its teachers to change the way they taught and as a result the teachers faced many issues as they were using technology in a very limited manner and it did not make much of a difference in student motivation to learn. Habibu (2012) in his study pointed out the major barriers that teachers face in using ICT in the classroom were that of unavailability of the latest ICT equipment, low Internet speed, lack of motivation from both teacher and student side to use ICT, lack of expert technical staff, poor administrative, and lack of proper training skills. In order to enhance the teaching-learning process, recommendations for teachers' ongoing professional development were made. These recommendations included modelling new pedagogies and teaching tools. Therefore, it is crucial for teacher educators and policymakers to comprehend the barriers to ICT use in teacher education as well as the cost-effectiveness of different approaches, in order to study the most relevant training methodologies and make such changes practicable for everyone.

A study conducted by Khokhar and Javaid (2016) in Pakistan confirms that both the teachers and students were of different views in using ICT for educational purposes where the teachers strongly believed that they tried to use technology in their courses in a very effective way, whereas, the learners in the study did not completely agree with their teachers' views of technology integration in classrooms. The students in this study believed that teachers still lacked the necessary skills to make technology a useful tool for learning and teaching purposes. A reason for both studies is that the teachers in those contexts were not trained when technology was introduced into their school systems.

Methods
This study looks into how teachers perceive and share their experiences about the use of technology in face-to-face and online classes. In this study, a qualitative case study method was used as it involves individuals as subjects in their natural environment, where the phenomenon under investigation is analysed holistically while keeping the context in mind (Creswell, 2017). Therefore, teachers in their learning and teaching environments were interviewed and observed.

Sample
The sampling technique for this study was purposive as it targeted a specific group of third and fourth year teachers. In total there were 12 teachers who had some experience of using different technologies in their face-to-face and online classes. These teachers were interviewed and observed as per their availability and consent.

Data Collection Techniques
Semi-structured Interviews
Semi-structured interviews were conducted with these teachers to gather essential information. This method of data collection is more of an exploratory interview where a set of questions related to the phenomenon under investigation acted as a guide (Baumbusch, 2010). This study had individual semi-structured interviews with 12 teachers (six from each year of III and IV) to better understand how technology is being used in their courses. Each interview approximately took 40 to 50 minutes and provided pertinent information about teachers' feelings and attitudes towards using different digital tools and platforms. To develop a broader viewpoint and comprehension, the initial questions were more general in nature. The researcher then shifted to asking more detailed questions, using the funnelling strategy as described by Smith and Osborn (2015). This helped in focusing on useful detail as we moved from closed questions to more open ended questions. The researcher also made points regarding participants' non-verbal communication which included their body language, gestures as well as their tone. This helped in interpreting the data and meaning making process (Denham & Onwuegbuzie, 2013).

Observations
Teachers in both face-to-face and online classes were observed to assess how they employed technology and the amount of student engagement in completing class activities through its utilisation. Then, the selected teachers' work on their VLE course sites was also analysed. The questions for students' focus group discussions and teachers' interviewers were developed by the researcher after class observations and analysis of teachers' work on their course sites. The class observation sheet and rubric to assess course sites were adapted after careful consideration by experts in this field.

Document Analysis

The online course sites were analysed for all 12 teachers (one each) and a rubric was used to analyse the information. This assisted the researcher to make notes on how the selected teachers were using the Virtual Learning Environment (VLE) platform for their online and blended courses.

Data Analysis
Participants' anonymity and confidentiality were respected, and all members gave their informed consent. Moreover, the data were analysed by first forming the anchor codes in alignment with the research questions (Braun & Clarke, 2005). Then, appropriate statements were then coded and placed under the corresponding anchor codes. Then a list of initial codes was generated by grouping the codes together. Different categories were also generated from these codes and then themes were extracted from these categories in order to address the research questions (Saldana, 2013).

Results and Discussion
This section is divided into four main components, each based on the research questions put forth.

Use of Technology in Face-to-face Classes
In this digital age, technology has transformed teaching in many ways. Teachers are encouraged to use ICT into their classroom teaching and learning processes, according to the curriculum materials. This is significant because the use of ICT will have a favourable impact on Pakistan's education system. In addition, the use of ICT aids students in expanding their knowledge and improving their learning abilities.

From class observations and interviews, it was confirmed that in addition to PowerPoint presentations, teachers also used videos of different nursing cases followed by a group task for students. Teachers also allowed students to use mobile phones inside the class when there was a need to browse for information and post responses on Padlet. With that, Mentimeter, Kahoot and Padlet which are web-based tools were also used by students in class. These online tolls that allow students to do real-time voting, play quizzes, share and collaborate their responses. An important element for these tools is the real-time and instant feedback that as per the teachers is well-received by students.

The VLE course sites were also used in addition to addition to face-to-face classes via a blended approach. The teachers were of the view that the Nursing course sites on the VLE were used as a "repository" in addition to face-to-face classes for providing students access to materials.

On the other hand, the teachers in their interviews mentioned that the university faculty were encouraged and provided support to enhance their teaching with technology and blended learning. This was noticeable from class observations and was even mentioned by the teachers. One of the teachers mentioned that,

> *We often receive emails from the Digital Teaching and Learning Network on using different software. Then, there are also workshops to use hardware such as the interactive whiteboard and collaboration devices. The most important thing is to be clear about the purpose of using technology in class.*

Thus, the teacher's focus was to explain that technology is not only about using different applications or software in class, but is more about understanding the usage of it.

Use of Technology in Online Classes
As classes moved online during COVID-19, full-time students resumed their studies through online platforms. Different platforms and teaching approaches were used to stay connected with each other. Teachers mentioned using Zoom and Microsoft Teams for their online classes, in addition to sharing recorded lessons through WhatsApp or VLE.

A teacher in the interview mentioned that,

> *We are asked to upload everything on VLE, including the recordings of lessons, but we also share the links with students on WhatsApp. This was mostly for students who are from the North and do not have access to the Internet at home.*

This means that separate plans were implemented for students who were from different parts of the country; thus facilitating them in every possible way.

From the online class observations, it was noted that the teachers who used the Zoom platform for teaching quite frequently asked students to use the annotation tools on a shared screen or whiteboard, and breakout rooms were used for group discussions. Teachers who conducted the classes also facilitated students during breakout rooms and moved from one room to another from time to time. The teachers in the interviews that there was a shift from using Zoom in the initial days of COVID-19 to Microsoft Teams as the university had purchased its license by then. For this, online training sessions were conducted for faculty and staff about the use of Microsoft Teams Classroom.

The VLE was used extensively as asynchronous online learning once classes went online during the pandemic. Teachers created different quizzes and small group collaborative activities on the VLE, uploaded reading material, opened discussion forums, and allowed students to submit assignments on it. A vast difference was observed between the use of VLE before and during the pandemic. A teacher further commented on this by saying,

> *We have used VLE differently before. The course sites were used to upload course material. Now, there is a big change in the way these sites are used."* On further probing, the teacher further described and said, *"We need to monitor students' progress and facilitate them in discussion forums as we need to show our presence over there now.*

This is a very interesting finding, as VLE is now being used through a different lens, more as a virtual classroom where different elements of teacher-to-student and student-to-student interaction are being incorporated and taken seriously.

Teachers' Attitudes towards Using Technology in Face-to-face Classes
Overall, the findings support integrating digital technologies in the teaching practice. The teachers interviewed for this study thought that students learn better in a class when some kind of technology is involved in the learning process. One teacher remarked that, '*I feel that using technology in the class makes a lesson more enjoyable and fun for students. Students are more engaged in the lesson.'*

Another teacher in her interview mentioned a similar view by saying,

> *Kahoot, Mentimeter and other apps work on the same page. It's pretty nice to get the class to interact and I think the idea is that you and students get to see the results immediately, like almost instantly which is something everyone likes.*

As a result, there seems to be a need for engaging, game-based e-learning environments that give students quick feedback. Gokbulut (2020) asserts that e-learning settings do give students an equal opportunity to participate in lessons where they can experiment and actively produce, modify, and create new data in the classrooms, in addition to consuming knowledge. Thus, for the current generation of students, it is necessary for teachers to provide learning environments that are technology-based, engaging and motivating. The roles have also changed as students like to actively participat e in class (instead of being passive learners) and like activities that are student-driven.

During the interviews, the teachers were also asked about the factors most liked by students in using technology and for this they were also of the view that students prefer technology that is easy to use and a teacher explained that,

> *Students like things that are easy to use, does not require a lot of writing, and are easily supported by mobile phones. They like things that are quick and provide instant results. A few examples would be quizzes and surveys.*

This supports the learning process of students in a positive manner, as the response rate is fast and students and teachers can easily monitor students' learning (Sad & Ozer, 2019).

It was also determined that online applications contribute to the development of teachers' digital skills and awareness of technology as well (Skoyles & Bloxsidge, 2017). This is a positive aspect for both teachers and students, as the lessons would run smoothly the more digitally skilled a teacher is.

Then, based on observations in class, it was decided to ask teachers about how students feel about pairing up or working in groups to complete a task while using technology. From the teacher interviews that were conducted, it seemed that teachers strongly favoured pair or group work and did not think much about the challenges students normally face in pair/group work. A teacher explained this in the interview by saying,

> *I feel that students don't mind pairing up with another student unless they don't get along well in general. But they need to learn how to help each other while using different technologies.*

The teachers also commented about using educational videos in class and for this a teacher said,

> *I use videos to motivate my students because I think they can understand them quite well as they get to see experts demonstrating different treatments as per their field. I think when students watch a video, they retain the information longer.*

The findings from further probing questions revealed that videos were preferred by all the teachers.

In addition to this, the teachers were also interviewed to find out more about their views about using digital technologies in their face-to-face classes. Firstly, the teachers recognized that they were dealing with students of the digital age and these students had different learning needs. A teacher explained, '*We are dealing with learners who grew up with technology so we need to teach in ways that our learners like or are used to.'*

Another teacher said, '*Students these days get bored very easily and to retain their attention, a teacher needs to incorporate different modes of ICT in their teaching practice.'*

Secondly, teachers also recognized that technology prepares students for the future and it is the need of time. A teacher explained that,

Technology prepares students for the real world because everything is moving to Artificial Intelligence in the healthcare setting. So it's making their learning experience as real as possible. So, ICT should prepare students for the workplace.

Thirdly, the teachers were also asked about how much technology should be used in a class. Upon this, all teachers stated that one should be clear about the purpose of using technology in a class. Then the teachers were also asked about the subjects that are more suitable for the use of technology. On this, a teacher said, *'Some subjects that are practical require a greater need of using technology, so that for example students can watch a video or understand the process by actually using the technology, computers or mannequins.'*

Another teacher said,

I think practical subjects are better suited as we can show videos of real scenarios to students as it is not possible to take them to the hospital side or clinics for every class. But then subjects that are more theory-based don't necessarily require ICT integration that much.

On the other hand, the teachers were also asked about technology that students do not prefer in classes. On this, the interviewed teachers and researcher's class observations informed us that students do not prefer presentations slides as one teacher mentioned, '*Students don't take interest in PowerPoint presentations anymore as they like to have interactions in the class.'*

Teachers' Attitudes towards Using Technology in Online Classes

During the COVID-19 pandemic, the main focus of education was to provide students with educational resources and material 24 hours a day. The results of this study that two platforms were used for online teaching in addition to the use of VLE and WhatsApp. According to Alameri et al. (2020), the effects of modern information technology are fast rising, and ICTs are becoming an increasingly important component of daily education activity at higher education institutions, particularly in areas where new innovative technologies are becoming more deeply embedded. Moreover, physical and psychological factors of Zoom, Microsoft Teams and VLE platforms may either encourage or impede the attitude and performance of students.

For online classes, there has been a mixed response from teachers. A teacher commented that,

Students prefer Zoom, teachers prefer MS Teams. It's because Zoom offers more functionality for students as compared to MS Teams. Students enjoy using annotate tools. However, we are asked to use more of MS Teams than Zoom due to security reasons.

This is an interesting finding, as teachers are aware of students' preference for Zoom, yet they use Teams due to the instructions provided by their department. However, during the interviews, teachers were also asked about the Zoom platform and they talked fondly about it. A teacher commented that,

For breakout rooms, a facilitator can move from one room to. It's a good strategy as you break students into groups, let them work, and then bring them back to the main room.

It was also noted during online class observations that teachers were more comfortable using Zoom and students were particularly very active in breakout rooms. Zoom and institutional LMSes were the most preferred technologies utilised during the epidemic, according to a research conducted by Chaka (2020). Although there were a few hindrances observed in breakout rooms where at least one or two students struggled to participate and as a result, kept on saying, *'Hello hello, can you hear me.....I can't hear you.'* For this, the teachers were probed during the interviews and they said that this is something beyond their control, and they let go of such situations.

Another platform that teachers feel students like the most is the use of Whatsapp. The teachers used WhatsApp profusely during the pandemic as for some students, it was the only mode of communication. The quotes of the two teachers are provided below,

We kept WhatsApp as a last resort for our students to interact with their teachers but it worked well. We asked them to send us an email, it was not possible for all of them. We ask them to use VLE, it was again not possible for all of them because of connectivity issues. Then the last option we gave them was to use WhatsApp because it uses minimal data from their cell.

And,

WhatsApp is good too as the 21st century has been hijacked by digital devices and apps.

This is an important finding as per the study by Djamdjuri and Kamilah (2020), the students used WhatsApp 75% and the Learning Management System 25% of the times.

The use of VLE for online teaching also received positive views by teachers. The teachers believed that VLE is useful for students who cannot take live classes as they can watch recorded videos and download course material on their own. A teacher in the interview said, '*VLE is quite liked by students as they can access the course material at their own time and place. We can also track their progress and performance through it.'*

This shows that VLE was liked and appreciated due to its benefit of making the content available in one location. Furthermore, the teachers found it effective as they could observe students' progress through it.

However, when inquired about the downside of online platforms, then the teachers disclosed that Microsoft Teams was being used in a limited manner and this was confirmed via class observations. A teacher in the interview mentioned that that it was a new platform for them and perhaps they required more time to fully utilise its functions. The same was reflected by a teacher:

> *MS Teams is a new platform for us so we are still getting the hang of it. We have more than 70 students taking online classes at one time so it is not possible to have a lot of interaction with them.*

Another important factor of MS Teams that teachers find difficult is about taking help from the IT every time a students' password is changed. A teacher said,

> *With MS Teams, we always need to request IT to help our students log in after their password is changed after three months. Plus, some teachers don't know how to operate it well. They didn't form groups and added students as guests so students couldn't do anything in the online class.*

The teachers also disclosed that students are not in a favour of discussion forums on the VLE. The teachers mentioned that their students have expressed dissatisfaction in posting a reply in forums as they do not learn from each other much and these forums are rather time consuming.

> *Students feel that discussion forums wastes their time as they need to read everyone's post and reply to it and it takes the whole day. They want simple question and answer forums so that they can ask questions directly from faculty.*
>
> Aderibigbe et al. (2021) looked into what motivates and demotivates students to participate in forums. They found that providing students with clear instructions and encouragement from teachers are key motivators, whereas providing insufficient instructions or encouragement and not participating enough as a facilitator demotivates students.
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> Obstacles Faced by Teachers

There were challenges that teachers faced with technological use in face-to-face and online learning environments.

Face-to-face Class

There were a few challenges that teachers faced in using technology in their face-to-face classes. A common challenge that all teachers occasionally faced at their end was when a computer in the class did not work as expected. The teachers in the interview were also inquired about this and one of them said, '*Here in Pakistan, there is no guarantee of things. Even if we ask the IT to assist us, that also takes a while to sort things out so we need to keep back-ups with us.*' As a result, the teachers indicated that employing ICT in the classroom was not free of risks. The results of this study suggest that there is some degree of risk associated with employing technology in the classroom, such as the possibility of computers or multimedia not functioning or an unexpected loss of Internet connection.

Then there are also challenges as to how technology is integrated into the system and courses. However, teachers also mentioned that these are some common issues that they frequently face and as a result have backup plans in place in case there is a sudden disruption in technology (Johnson et al., 2016).

Online Class

During the pandemic, teachers encountered various obstacles in their online teaching due to the use of technology. To being with, the majority of students in the north of Pakistan did not have access to the Internet at all or had very poor connections. The teachers also complained about the stability of the Internet at their place and mentioned that they needed to plan their lessons in a way where they had backup plans in case a video does not play from their end.

A teacher reflected on her experience and shared, '*I then send the link of the video to students on WhatsApp and ask them to quickly watch it by giving them 5 minutes.*' This shows that teachers faced issues while conducting online classes but provided an alternative for it.

Then, there were also some teachers who confessed that they themselves were not very familiar with online platforms and thus found it difficult to deliver online classes. These teachers initially made mistakes that hampered their lessons. A teacher during the interviews agreed to this, as one of them said,

> 'Initially, w*e were not trained how to use MS Teams but we learnt how to get a hang of it by making blunders.*'

Thus, the online environment required higher levels of technical ability and proficiency from teachers on top of their regular academic workload, and this added more complexity to their teaching (Ullah et al., 2021).

The teachers were also asked about the challenges students faced in taking online exams. The teachers in the group had different opinions on this as some accepted that students faced problems in taking online exams; however, some also stated that different options and support was provided to students to help ease their exam anxiety. It is therefore recommended to assist students in managing their online exam anxiety using counselling and behavioural strategies (Ajmal & Ahmad, 2019).

Support Provided to Students by Teachers
The last area dealt with the support and provision that teachers provide to students when using technology for educational purposes. Students were offered different options and support in case the technology failed to support their learning. For example, teachers provided students with a printed version of the survey or quiz questions in case their mobile phones did not support or run a particular online activity. A teacher commented, '*In class, if the internet does not work or students' mobile gets stuck, then we provide them questions on paper. So, students don't feel stressed in that situation.'*

Then, teachers also often paired students with other students or formed groups where technology was being used, so that students were not left behind to learn from each other. A teacher mentioned that, '*It is a common practice here that we quickly pair or group students together if there are any issues with technology. Students are very supportive in this.'*

Even for online exams, students were given extra time and teachers supported students via WhatsApp and other means. Two teachers said,

> *If students face problems during exams or can't upload paper, then they can send a screenshot of paper as a proof that they have attempted it.*

And,

> *During this COVID situation when we were working from home. So we connect with students on WhatsApp and the most important thing is that students are sent course material on USBs.*

The teachers, were also of the view that they provided adequate support to students wherever they could. Same was the case with the VLE course sites where via document analysis, it was noticed that teachers provided support to students by uploading material online for easy access to students and its usage increased by teachers and students during the COVID Pandemic. A teacher commented, *'We are trying our best to ease the situation and offer multiple options to students so that they don't get stuck if there is an issue with technology.'*

Through my class observations, it was observed that the teachers were very supportive and always provided at least two options to the students, in case there were any issues in the using technology in face-to-face and online classes. The teachers also recorded their online classes and where the need arises, demonstrated live via a dummy different practical processes such as wound dressing. However, it was also noticed in those classes that some students had weak technology/computer skills and required more help from teachers and colleagues. Findings have also indicated that teachers' well-equipped preparation with ICT tools and support they provide to students are main factors in success of technology-based teaching and learning (Ghavifekr & Rosdy, 2015).

Conclusion
The main aim of this study was to explore and gain an understanding of Nursing teachers' perceptions, experiences, and motivation on using technology for the teaching process. It can be concluded that a teacher's own willingness to use technology plays a key role in enhancing quality teaching. The teachers were of the view that students enjoyed lessons where some kind of technology (Kahoot, Padlet, and Mentimeter) was involved in class as it made the lesson more engaging. For online classes, other platforms such as VLE and WhatsApp were also used to assist students in their learning process. According to the findings of this study, there was a level of uncertainty while using technology in the classroom and online, such as computers or multimedia not working or an unexpected loss of Internet connection. Even with online classes, the teachers mentioned about having backup plans in case the Internet did not work. The support that teachers provided to students was in the form of different options and support in case the technology failed to support students' learning.

The sample selected for this study was specific to teachers in the undergraduate programme and thus the responses received from the participants may not be applicable to teachers outside this level. The following recommendations are proposed from the findings of this study. Teachers should think of alternatives to using PowerPoints in class. This includes using other forms of technology to make the learning process more engaging for students. Additionally, teachers need to be well-trained and for that support should be provided in using ICT tools in face-to-face and online classes. The universities should set some policies to integrate ICT into their curriculum and provide support to teachers when integrating technology into the curriculum, which revolutionizes the learning process. Regular training sessions should

also be offered to teachers in order to enhance their skills in using different technologies for face-to-face and online classes.

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