

Experiences of online learning and teaching during the second phase of the COVID-19 pandemic: A study of in-service teachers at the Fiji National University

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The current study investigated the experiences of in-service teachers' at Fiji National University (FNU) during the second phase of the COVID-19 pandemic. The research aimed to contribute to the evidence base of factors affecting the effectiveness of online learning for in-service teacher education in Fiji and identify strategies for improving student experiences in Fiji and similar contexts. The study involved an online questionnaire administered to 97 in-service teachers at FNU and a follow-up one-on-one interview with six questionnaire participants. The paper is structured into three sections: outlining the literature, context and methods used to gather the data; presentation of the results about online learning experiences of in-service teachers during the COVID-19 pandemic; discussion of the challenges faced by the in-service teachers in adapting to the online learning process during the COVID-19 pandemic. The main findings indicate that the FNU in-service teachers faced challenges in transitioning from face-to-face to online instruction, but, for at least some, the transition also brought benefits. The four main challenges included poor connectivity issues, unavailability of devices, inadequate technological skills and the demands of multiple roles. The benefits of online learning comprised improving students' technical skills, upskilling higher education staff and systems, staying connected during tough times, saving money and time, flexibility and convenience. The study reveals that adaptation should focus on improving the courses and accommodating the digital gap among in-service teachers by providing mobile-friendly, synchronous and asynchronous activities.

Keywords: Online learning; pandemic; Fiji; in-service teacher education; COVID-19

INTRODUCTION

Since early 2020, the Coronavirus (COVID-19) pandemic has led to global disruption, including in the education sector, primarily due to the closure of educational institutions (Pokhrel & Chhetri, 2021; Schleicher, 2020; Wang et al., 2022). Numerous schools and universities around the world closed their doors as part of measures designed to reduce physical contact between people to curb the spread of the pandemic (OECD, 2020). Many higher

education institutions, where face-to-face learning was the norm, were forced to rapidly transition to online and distance learning during the pandemic. Such a quick transition has posed many challenges to educators and learners. Despite the challenges, forms of distance and online learning have been seen by some as a panacea for this unprecedented global pandemic (Pokhrel & Chhetri, 2021). The transition to online education has had a wide range of immediate impacts on teachers and learners, which have varied across contexts (Schleicher, 2020). Dhawan (2020) argues that the COVID-19 pandemic also contributes to longer-term impacts on education by further accelerating and normalising online learning use at all levels. In a time of such rapid change, the need for research to understand the positive and negative impacts of online learning for students is critical for informing future practice (Pokhrel & Chhetri, 2021).

Responding to this research need, this article reports on a small-scale study of the experiences of undergraduate and postgraduate students undertaking teacher education courses during the pandemic at the Fiji National University (FNU) in Fiji. The study was motivated by the authors' experiences as teacher educators at FNU and our desire to understand students' experiences to better improve our practice. As educators, the arrival of the COVID-19 pandemic in Fiji created many challenges because we were forced to rapidly transition to delivering our courses online to ensure continuity of learning for our students. It quickly became evident that this transition worked better for some students than others and that there was an immediate need for research to understand students' experiences.

We undertook our study in 2021, during the constrained conditions of a nationwide 'lockdown' (government-mandated requirements for all residents of Fiji to remain at home as much as possible, the closure of all non-essential businesses and the cessation of community activities) in 2021. We designed our study to allow rapid data collection and enable the learnings from the research to be used to inform an ongoing research agenda in light of the potential for online modes of delivery to be maintained beyond the pandemic. We share this research with the aim of contributing to the evidence base of factors affecting the effectiveness of online learning for higher education in Fiji, as well as to demonstrate the utility of rapid, small-scale research to inform practice, including in emergencies.

The article begins with a brief review of the literature on online learning in the context of COVID-19 before presenting the context of the study, namely teacher education in Fiji. We then describe the methods used to undertake the study, followed by a presentation of initial findings and an analysis and discussion of the implications for FNU and in-service teacher education more broadly.

ONLINE LEARNING IN THE COVID-19 CONTEXT

Since 2020, the COVID-19 pandemic has placed enormous challenges on communities and governments globally, affecting nearly all countries. In the education field, this crisis has led to the suspension of face-to-face activities of educational institutions in many contexts for extended periods (UNESCO, 2020). James (2021) argued that the COVID-19 crisis has brought online learning to the forefront of daily life. Research shows the crisis has significantly impacted teacher education (Jin, 2022) and higher education institutions more broadly (Schleicher, 2020). Even though some universities used online platforms for teaching and learning in addition to face-to-face methods before the COVID-19 pandemic, most were not ready to transition to a completely online experience (Coman et al., 2020).

The COVID-19 pandemic has spread at different rates across the globe, and most countries have experienced several COVID-19 'waves' due to the virus's rapid mutation and seasonal

variations in infection rates (WHO, 2021). In this article, we refer to the first and second phases of the pandemic. We consider 2020 the first phase when countries came to terms with COVID-19 and its impacts. The second phase in 2021 was marked by the arrival of more infectious variants but also increasing access to effective vaccines and stronger evidence for and experience in implementing effective public health measures to contain the spread and impact of the virus.

The sudden disruption experienced in education in the first phase of the COVID-19 pandemic reshaped pedagogical practices and led to the rapid adoption of online teaching among universities (Lederman, 2020). The sudden transition from face-to-face to an online environment impacted curriculum, pedagogy and student outcomes across disciplines (DeCoito & Estaiteyeh, 2022). However, the experience of the first phase meant that by the second phase in 2021, many higher education institutions were more prepared to deliver teaching and learning online and were better able to transition fully to online learning when schools were closed again due to increases in infection rates. As such, researching students' experiences during the second phase of the pandemic can help inform an understanding of universities' successes in adapting to online learning and the potential challenges and opportunities in maintaining online learning methods in the longer term.

ONLINE LEARNING: DEFINITIONS, CHALLENGES AND OPPORTUNITIES

The literature uses various terminologies and definitions to define online and distance learning, including e-learning, digital learning, distance and flexible learning, and technology-enabled learning. Kauffman (2015) defines online learning as adopting a teaching strategy where all the content is delivered through technology from a distance. Kim (2020) claims that 'online teaching and learning is a form of distance education to provide learning experiences for students, both children, and adults, to access education from remote locations or who, for various reasons, cannot attend a school, vocational college, or university' (p. 147). Singh and Thurman (2019), Dhawan (2020) and Kim (2020) proclaim that online teaching and learning are learning experiences in synchronous or asynchronous environments utilising different devices, such as laptops or mobile phones, with access to the internet. We concur with this definition. We distinguish online learning from other forms of distance learning or technology-enabled learning. It involves using digital devices to access and engage with various static and interactive resources via the internet.

The literature also highlights several key variables that impact teachers' and students' experiences engaging with online learning. One is whether online learning takes place synchronously or asynchronously. Synchronous online learning involves real-time interactions between the teacher and the students. In contrast, asynchronous online learning occurs without a strict schedule, providing students greater flexibility regarding when they engage with the content and at what pace (Singh & Thurman, 2019). The study findings by Fabriz et al. (2021) revealed that synchronous environments allow for teaching methods such as teamwork or video discussions, which inherently support the social interaction of students as well as student-teacher interaction. By contrast, asynchronous environments are more content-oriented, and teaching methods conceptually tied to asynchronous settings focus on facilitating student interaction with the learning materials (Fabri et al., 2021, p. 10). Whether online learning occurs synchronously or asynchronously is just one example of the variables identified in the literature that can affect users' (i.e., teachers' and students') experiences of online learning. As Lei and

So (2021) assert, understanding current users' (i.e., teachers and students) experiences of such variables will help future planning and development.

Another important variable identified in the literature is teachers' and students' digital readiness and technological competence to engage in online learning (Bao, 2020; Crawford et al., 2020). While some students and teachers may have the required skills and knowledge about using digital devices, software and the internet, others may be less 'techno-savvy' (Hung et al., 2010). A further key issue is teachers' and students' ease of access to devices and the internet, including the reliability of internet connections and the affordability of quality devices. Moustakas and Robrade (2022) found that the lack of technological resources, poor internet quality and a lack of information communication technology (ICT) knowledge were essential barriers, especially in developing countries. Winter et al. (2021) argued that online learning could only be feasible if students and teachers access computers and reliable internet connections. According to Reimers and Schleicher (2020), financial implications may be one of the factors affecting online learning as students cannot purchase suitable electronic devices and buy data. For an online mode to be successful, it is of utmost importance to have access to digital devices, the internet and Wi-Fi.

The brief literature review has highlighted some of the many challenges faced by higher education institutions when they adopted online learning during the COVID-19 pandemic. We have provided a definition of online learning for this article and highlighted some (not all) variables that affect online learning. We now introduce the specific case that is the focus of this study before reporting on the method and findings of the study.

TEACHER EDUCATION AT THE FIJI NATIONAL UNIVERSITY, FIJI

FNU is a provider of teacher education at undergraduate and postgraduate levels to an approximate average of 500 students per year across three campuses in Fiji. The Departments of Primary and Secondary Education under the School of Education offer teacher education to 'pre-service' and 'in-service' teachers. The pre-service teachers comprise students who enrol in teacher training institutes to complete their degree requirements before being awarded a teaching certificate. In-service teachers are practicing teachers recruited by the Ministry of Education who enrol at teacher training institutes to upgrade their qualifications. In 2021, 130 in-service and pre-service teachers were enrolled in various units in undergraduate and postgraduate courses offered by the Department of Primary Education at FNU.

Prior to the COVID-19 pandemic, the School of Education at FNU already offered some courses in a blended mode, with plans to shift other courses to an online mode in due course. The blended mode comprised face-to-face classes with integrated online learning, such as recorded lectures available for students to access via the Moodle platform and the Zoom platform for students to participate in real-time classes online. This mode of education was mainly provided to in-service teachers, though a few courses offered it to pre-service teachers. Prior to the pandemic, academics in the School of Education adopted the blended learning mode on a case-by-case scenario and only the staff taking blended courses were trained in the blended mode of delivery. As a result, not all academics in the School of Education were fully trained to deliver in a blended or online learning mode.

On 16 March 2020, on the arrival of the first case of COVID-19 in the country, schools and universities were closed overnight in Fiji and restrictions on people's movements were put in place. As such, universities in Fiji, including the FNU, were forced to deliver their courses online to avoid disruptions and ensure students could continue learning. For instance, FNU took

proactive measures and utilised the Moodle platform to offer the units in a virtual learning environment (FNU, 2021).

Most courses at the School of Education were offered in a blended mode to reduce face-to-face interaction for both pre-service and in-service teachers. An extended mid-semester break was provided to students so that academics could undergo virtual training provided by staff from the University's Centre of Learning and Teaching Enhancement Department, to learn how to deliver online. Staff were also supported to design alternative assessments that would replace face-to-face examinations, which were supposed to be administered at the end of Semester 1, 2020, of the academic calendar year. Students working from home in various geographical locations completed these units online. A flexible approach to submitting assignments was also offered, so students could submit assignments in the easiest form, ranging from hand-written scripts sent as scanned files to word-processed files, with an extension to due dates offered whenever needed.

During the second semester of 2020, restrictions were lifted due to reduced infections, and the FNU School of Education returned to 'normal' practices of face-to-face learning. However, due to the second wave of community outbreaks of the virus, schools and universities in Fiji had to be closed again on 16 April 2021. As the outbreak was more significant this time, blended learning was not an option, and FNU took proactive measures to provide all units entirely via an online learning environment. The blended learning mode was transformed to entirely online learning within a week and alternative assessment forms were again designed to be used in place of face-to-face examinations. Though challenges were encountered during the first phase of the COVID-19 pandemic, the learning experiences allowed the academics to deliver a more consistent experience in the second phase. Once again, the lockdown confined the students to different geographical locations, and they had to complete their units with varying experiences and challenges.

As members of the teacher-educator team at the School of Education of FNU, we had to endure these rapid transitions and were cognisant of our students' challenges in participating effectively online. We, therefore, recognised the importance of research to understand our students' experiences to identify the factors that should be considered by individual educators and higher-education institutions when designing online learning for the future. As such, despite the challenging circumstances of the pandemic, we undertook a small-scale study to gather evidence about the experiences of in-service teachers undertaking teacher education courses online at FNU during 2021. In undertaking the research, we sought to identify the extent to which participants were able to engage in online learning, the barriers and enablers they faced in doing so, and their broader experiences as students during the COVID-19 pandemic.

METHODOLOGY

The study reported here used a mixed-methods design (Creswell & Creswell, 2018) to address the research questions. We collected quantitative and qualitative data to explore and assess Fijian in-service teachers' experiences with online learning from FNU during the second wave of the COVID-19 pandemic. We aimed to obtain comprehensive quantitative and rich qualitative data detailing student teachers' experiences with online teaching. We collected the quantitative data by administering a structured questionnaire. We identified in-service teachers enrolled in 2021 at the School of Education, FNU, as our target. These in-service teachers were enrolled at Labasa, Nasinu and Lautoka campuses and lived in different locations across the country. We chose to focus on in-service teachers rather than pre-service teachers because in-

service teachers had multiple roles to play while continuing their study in an online and distance mode. These roles included being primary caregivers to their families, online students and remote teachers of their classes. The targeted students were a mix of undergraduate and postgraduate students. The in-service teachers enrolled in the undergraduate programme had attained either a Certificate in Primary Teaching or a Diploma in Primary Teaching.

The questionnaire comprised three parts. The first part contained questions about demographic information, including age, gender, campus enrolment, level of study and programme. Based on the literature review, we selected these variables as factors that may influence students' online learning experiences. The second part of the questionnaire asked about participants' access to devices and the internet and their technological competence and confidence. The third part asked questions about their preferred mode of course delivery, coverage of content, and methods used for online delivery. The questionnaires incorporated multi-choice and open-text questions, enabling both quantitative and qualitative data to be collected.

Before administering the questionnaire to our target sample, it was peer-reviewed by colleague researchers. We pre-tested the questionnaire using a small sample of students enrolled at the School of Education to ensure the reliability of its design. The questionnaire was improved in response to this feedback and then finalised. The questionnaire was administered using Google forms, and the web link to the questionnaire was shared with the sample population via the Viber/messenger group established by the School of Education lecturers for communication with student cohorts. This was necessitated by the social distancing regulations that had to be observed due to the national lockdown.

A desired sample size for the questionnaire was determined using Krejcie and Morgan Table (Krejcie & Morgan, 1970). Acceptance of responses to the questionnaire was closed upon reaching the desired sample number. Hence, out of the 130 in-service teachers actively participating in the enrolled education courses at FNU, 97 students participated in this questionnaire phase of the research.

In the second phase of the study, we collected qualitative data using semi-structured interviews to obtain in-depth information about students' online learning experiences during the pandemic. The semi-structured interviews focused on the comprehensive personal experiences and challenges faced by the selected participants. The one-on-one semi-structured interviews were conducted via the digital communication applications of Viber and Zoom. One-on-one interviews were chosen in preference to focus group interviews to ensure interviewees' responses were not affected or influenced by the presence of other interviewees (Morgan & Hoffman, 2018). Combined with the challenges of conducting interviews online rather than face-to-face, we expected that one-on-one interviews would enable us to ask additional questions and seek clarification to get more accurate information.

The research employed purposive sampling to select the participants for the interview (Creswell & Creswell, 2018), choosing the sample after analysing questionnaire responses based on the criteria of ensuring representation in the sample from varying levels of study. Six questionnaire participants were identified based on their levels of study (undergraduate and postgraduate). Before beginning data collection, we gained ethical approval for the research from the FNU Human Research Ethics Committee. All relevant ethical guidelines were abided by when conducting the research, including ensuring informed, voluntary consent from all participants, keeping participant information confidential and maintaining participant anonymity.

Data analysis

We carried out the data analysis in two stages. In the first stage, we downloaded the quantitative data from the Google forms questionnaire and then converted it to a Microsoft Excel file. We carried out descriptive analysis to find the percentage and frequency of responses. In the second stage, we used thematic analysis of the qualitative data from the open-text questions of the questionnaire and the one-on-one interviews. Thematic analysis is a method for analysing qualitative data that comprises searching across the dataset to identify, analyse and report repeated patterns (Braun & Clarke, 2006). We first familiarised ourselves with the over dataset by undertaking an initial read-through. We then began a coding process, first identifying general initial themes and then iteratively refining these as we progressed through the data analysis. We used inductive coding when new themes seemed to emerge from the qualitative data collected through the interviews. We then reviewed the quantitative and qualitative data together to triangulate between the data sets and develop a more comprehensive analysis (Creswell & Creswell, 2018). We undertook this analysis process jointly, engaging in a deliberative process to reach an agreement on key themes and interpretation of the data, which provided an additional layer of verification and triangulation.

Participant demographics

Table 1 summarises demographic data collected about the research participants.

Table 1: Research participant demographic data

Demographic variables	Description	Frequency	Percentage
Age	25-30 years	49	51
	31-36 years	22	22
	37-42 years	19	20
	43-49 years	5	5
	50 and above years	2	2
Sex	Male	24	25
	Female	73	75
	Others	0	0
Level of study	Undergraduate	33	34
	Postgraduate	64	66
Campus	Labasa	22	23
	Lautoka	48	49
	Nasinu	27	28
Tertiary experience	Continuing student	83	86
	New student	14	14

Most online questionnaire participants were between 25-30 years and were females. Most research respondents were enrolled in postgraduate studies and were continuing students. Most of the respondents were from the Lautoka campus of FNU. For the interview, six participants were identified based on their levels of study (undergraduate and postgraduate). We chose three undergraduate and three postgraduate students for the interview stage.

RESEARCH FINDINGS

This section presents results and initial findings from our analysis of the qualitative and quantitative data, thematically organised in terms of the findings: respondents' preferences for

online, blended or face-to-face learning modes; respondents' experiences of the transition to online learning; respondents' views on the effectiveness of online learning; the availability of devices; and, finally, the main challenges reported by respondents. As noted earlier, we undertook the study during the constrained circumstances of lockdowns due to the COVID-19 pandemic and designed the study to allow rapid data collection to inform immediate practice. Therefore, there are limitations to the study due to reliance on in-service teachers' self-reported experiences. The study did not collect data from other sources about students' engagement in online learning (such as frequency of Moodle logins or duration of time spent online) or student outcome data. This limits the extent to which conclusions can be reached about the impact of online learning on student outcomes and how that varies according to the level of student engagement online. These are areas for future research to consider.

In-service teachers' preferences for online classes

The questionnaire asked respondents, if they had a choice, which would be their preferred learning mode (see the summary of responses in Table 2).

Table 2: Preferred mode of learning

Which mode do you prefer if you had a choice?	Frequency	Percentage
Online	40	41
Blended	29	30
Face-to-face	28	29

The data revealed that most respondents (41%) prefer the online learning option. Only 30% opted for blended learning, and 29% preferred face-to-face instruction. In the interviews, we asked respondents to provide a reason for their preferred option. Those who said they preferred online learning (n= 5) explained that they preferred it because it allowed them to stay connected from their preferred place and saved travelling costs. Furthermore, in-service teachers favoured the online mode provided the classes were well structured, had good internet connectivity and had competent lecturers.

Twenty-nine percent of the participants favoured face-to-face classes. Respondents in the interviews (n=2) indicated they did not prefer online learning because they lacked the technical competency required, did not have suitable electronic devices and faced internet connectivity issues. This finding indicates how the COVID-19 pandemic has significantly widened the digital divide because many students cannot equally engage in online learning simply because they do not have home-based access to adequate technological devices and stable internet connections (Li, 2022).

As stated earlier, the interview data revealed several reasons why some respondents preferred the online learning mode. As shown in the quotes below, these reasons included the convenience of not travelling and the ability to study at their own pace.

I observed that I did better while working from home than I did going to school every day. The lecturers were good at preparing and delivering their content, but I didn't always have time to read all the notes as they were too lengthy. (Undergraduate Student 1)

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It was an incredible experience. No face-to-face contact yet; I could complete things on time and quite well. I could spend a lot of time on assignments. No traveling time and cost used. (Postgraduate Student 1)

During the COVID-19 pandemic, the FNU liaised with Vodafone and Digicel to provide free access to the learning management platform (Moodle). The quotes above indicate that some respondents' experiences through the COVID-19 pandemic had taught them the need for and benefits of online learning. These findings resonate with that of a study carried out by Priyadarshani and Jesuiya (2021) in Sri Lanka, which also highlighted the acceptance of online classes during the pandemic. For in-service teachers working at the same time as studying, it is understandable that they appreciated the opportunity to study at their own pace and at the time of their convenience and that this preference for online learning may continue beyond the pandemic.

Transition to online learning

As shown in Table 3, most questionnaire respondents (77%) reported that they easily adjusted to online learning, whereas 20% indicated difficulty adjusting to online learning. Very few teachers (3%) reported that they could not cope with online learning.

Table 3: In-service teachers' feelings about the shift to fully online learning

How did you feel about the sudden change in education delivery?	Frequency	Percentage
Adjusted	75	77
Found difficulty	19	20
Unable to cope	3	3
Other	0	0

The interview data presented below suggests that technologically competent students could easily adjust to the transition to online classes. Several interview respondents indicated that their technological competence came from completing computer classes in secondary school or experience in online learning during undergraduate courses.

I could easily transition to online classes, as I had already taken Computer Classes at Secondary schools, which helped me develop my technological skills. (Undergraduate Student 1)

I could easily adjust to online learning as I had already taken a MOOC course on technology-enabled learning. As I am a fresh graduate from FNU, I have already been exposed to technology-enabled learning. (Undergraduate Student 2)

I had no problems transitioning to online classes, as I was used to the system. I was competent in using technology and could efficiently complete online assessments. (Postgraduate Student 1)

I had already done a course on Integrating ICT across the Curriculum at FNU under my B.Ed. [Bachelor of Education] program, so I had no problem using technology to complete my online course. (Postgraduate Student 2)

In contrast, the interview data indicates that respondents who were enrolled in the in-service courses for the first time faced difficulty moving to online learning due to a lack of technological skills.

It started well but faltered towards the end of the unit. I faced many issues that greatly affected my emotional and physical health, making it hard for me to continue my studies as I was too tired every day. (Undergraduate Student 2)

I had difficulty completing my courses online as I had problems using ICT. I believe ICT skills should be taught from primary school. (Undergraduate Student 3)

The results show that not all in-service teachers were fully prepared for the online classes. The emerging theme indicates that in-service teachers benefit from being technologically competent when participating in online learning. The implications of this result highlight the value of developing students' technological skills during primary/secondary schooling in Fiji. The research also indicates the importance of having adequate ICT infrastructure and internet connectivity across different geographical locations.

The effectiveness of online learning during the COVID-19 pandemic

The data showed that 50% (see Table 4) of the participants found the online mode useful. The follow-up interviews revealed the following reasons for finding online learning effective.

Table 4: Participant perceptions of the effectiveness of online learning

Effectiveness of online learning	Percentage
Effective	50%
Not effective	7%
It depends on the Lecturer	18%

First, in-service teachers could complete their units online from different locations rather than travelling to do face-to-face classes.

It is easy for me to learn online rather than attend an online, face-to-face class as I don't have to travel from Rakiraki to participate in classes in Lautoka [approximately 100 km]. (Postgraduate Student 3)

I could devote more time to my studies because I did not have to travel to campus. The time saved was used for online learning. (Postgraduate Student 2)

Second, the interviews revealed that the pandemic taught them to be ICT competent.

This pandemic has taught us many things—We need to have computer skills to study. Also, having a smartphone with all features helps us learn despite this pandemic. (Postgraduate Student 1)

Some respondents indicated that they were guided and trained by their lecturers to attain the necessary technological skills and be sufficiently ICT competent to continue the course.

Though I did not have a laptop, my lecturer guided me on how to use a smartphone to do my assignment. With her help, I could download the relevant software to access and do my write-ups. (Undergraduate Student 3)

Third, several respondents shared their views that the online mode allowed flexibility to participate synchronously and asynchronously.

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I was given more time to complete my online quiz, and I could also access my course any time of the day. (Postgraduate Student 1)

Nevertheless, as shown in Table 4, 7% of the respondents were not satisfied with the effectiveness of online classes. In the interviews, respondents indicated that poor connectivity and lack of technological skills contributed to the non-effectiveness of the online mode.

Due to poor connectivity, I had issues coping with assignments. (Undergraduate Student 1)

I also had difficulty using technology because I had no computer classes to upgrade my skills. (Undergraduate Student 3)

Table 4 shows that 18% of the respondents stated that the effectiveness of online learning depended on the lecturer. The interviews revealed why the lecturer's role was crucial for effective online learning.

My lecturer was not supportive, and I had to do many things independently. (Postgraduate Student 2)

The contributing lecturer was very helpful. She always responded on time to our queries in Viber group. (Postgraduate Student 3)

Switching to an online course was challenging; however, the support provided by the Fiji National University guides was tremendous. (Postgraduate Student 1)

Availability of devices

The respondents used various devices to participate in their online learning. Questionnaire data, summarised in Table 5, indicated the disparity in the devices used by the in-service teachers to access online learning.

Table 5: Devices available to participants

Available Devices	Frequency	Percentage
Smartphone only	11	11
Laptop only	18	19
Ipad/tablet only	1	2
Smartphone and laptop	64	65
Smartphone, ipad/tablet and laptop	3	3

An additional question in the questionnaire indicated that 65% of the respondents shared the devices with their family members, and 35% had their own devices.

Research shows that access to appropriate technology is often due to geographical location and socioeconomic status differences. For example, according to Reimers and Schleicher (2020), differences in socioeconomic factors affect students' access to technology, exacerbating the challenges they face in online learning. The interview data reveal some respondents' challenges in accessing appropriate devices and how that impacted their online learning.

I had only access to a smartphone, and it was difficult for me to type my assignments using the phone. (Undergraduate Student 1)

We were sharing our devices at home. My children sometimes needed the laptop for their zoom classes which collided with my online courses. As a parent, I had to give my computer to them because I could not sacrifice their education. (Postgraduate Student 1)

Challenges faced using the Online mode of delivery

As shown in Table 6, the questionnaire revealed that most respondents (n=55) indicated poor connectivity issues as the major challenge of online learning. The unavailability of e-learning resources, like a laptop/desktop at home, was also a challenge for 18% of the respondents. Ten percent reported a lack of adequate technical skills as a challenge during online learning, while 5% faced difficulty purchasing data. Ten participants responded ‘other’ as a major challenge. The follow-up interviews revealed family roles and work commitment as challenges of online learning.

Table 6: Challenges reported by participants in engaging in online learning

Challenges in engaging in online learning	Frequency	Percentage
Lack of adequate technological skills	10	10
Poor connectivity issues	55	57
Unavailability of e-learning resources like laptop/desktop at home	17	18
Unable to purchase data	5	5
Other	10	10

The follow-up interviews revealed more about participants’ experiences of these challenges:

It has been a challenge when faced with family members admitted for COVID and balancing with school workloads. It has taught me to read widely and plan my time accordingly. (Undergraduate Student 2)

It was challenging for me as a working mum. There were times of role strain- being a mum, student, and teacher. I had to manage time which was hectic as demands from school also increased, and I had to be with my four kids, who are below the age of seven. (Postgraduate Student 2)

I had to disseminate worksheets to 50 students through their preferred mode of learning, which included zoom classes and hard copies of worksheets. This took much of the time I could have devoted to my studies. (Undergraduate Student 1)

DISCUSSION: CHALLENGES AND BENEFITS OF ONLINE LEARNING DURING THE COVID-19 PANDEMIC

This section discusses the research's main findings, its equivalence with the literature on online learning, and the implications of the findings for future practice. Our study revealed that in-service teachers studying at FNU during the COVID-19 pandemic faced challenges transitioning from face-to-face to online instruction. However, for at least some, the transition also brought benefits. Respondents reported four main challenges. First, the in-service teachers faced poor connectivity issues (n=55). This is a common challenge cited in the literature on online learning, often related to geographical location (Aboagye et al., 2021; Dhawan,2020; Rouf, 2022). In the context of Fiji, where high-speed internet connections are not accessible in all geographical areas and are not affordable for all socioeconomic levels, this is a key issue to be considered. For in-service teachers to participate effectively in online courses in Fiji,

reliable, consistent internet connectivity is one of the priorities. Secondly, the research findings indicate the availability of devices, such as laptops, tablets and smartphones at home, can also be a barrier to online learning for in-service teachers in Fiji. Again, this is a common finding in broader research on teacher engagement in ICTs for education, which has also been exacerbated by the COVID-19 pandemic (Lei & So, 2021). This finding highlights the importance that higher education institutions, such as FNU, need to consider options for ensuring in-service teachers have adequate access to appropriate digital devices for online learning. The research findings are consistent with those of other studies. For example, Moustakas and Robrade (2022) found the major barriers to adopting online learning in developing countries are a lack of technological resources and poor internet quality.

The third main challenge reported by respondents was inadequate technological skills. If in-service teachers do not have sufficient training in technology, they lack the necessary skills (Winter et al., 2021). The findings highlight the need for a mandatory ICT course to be offered at teacher training institutes so that teachers can upgrade their technical skills and develop computer literacy and competency.

The interviews also showed that the in-service teachers engaged in multiple roles, such as online classroom teachers, family chores and expectations, while studying remotely from home. The contextual conditions of in-service teachers can hinder or enable online learning. Pelikan et al. (2021) note that the home environment and contextual factors can affect students' online learning. While delivering online courses, there is a need to provide teacher care so that educators can provide appropriate support for students challenged with multiple roles at home. The interviews revealed a need for academic staff to be more flexible and supportive while delivering online courses to cater for the challenges faced by the in-service teachers.

The study highlighted the significant benefits of online learning during the COVID-19 pandemic for in-service teachers in Fiji. The in-service teachers saved money and time compared to their usual travelling cost for face-to-face classes; time spent on travelling was devoted towards online studies, as also found by Ramírez-Hurtado et al. (2021). Online learning also allowed in-service teachers to navigate the course at their own pace. The in-service teachers could participate in online learning at their own time at any time of the day. Hence, flexibility and convenience are significant drivers of in-service teachers' preference for online education.

In-service teachers felt that the sudden shift to online learning during the pandemic made them more ICT competent. As the only means of completing the course was through the online mode, in-service teachers had to adapt to the use of technological devices to access online learning content. FNU provided students with some support to attain the necessary technical skills. Similar sentiments were shared by O'Connell et al. (2021), who confirmed that the sudden introduction of online learning and physical distancing led to a new acceptance of technology due to an increased perception of the usefulness of technology for maintaining community and social connections.

CONCLUSION

The Fijian in-service teachers had varied online learning experiences during the enforced closure of FNU during the COVID-19 pandemic. Their experiences were impacted by their ability to work in the transition period and adapt to online learning. During the COVID-19 pandemic, online classes brought several benefits, such as creating a digital learning community, improving students' technological skills, upskilling education, staying connected

during tough times, saving money and time, and flexibility and convenience. Challenges included the unavailability of electronic devices, geographical location and technological obstacles, which hindered some students' learning. Undergraduate in-service teachers faced adaptation difficulties with the sudden transition to online classes.

This study has provided initial findings valuable for informing immediate practice and future research. Future research needs to examine the pedagogies adopted for online learning to understand those most effective for in-service teachers' varied needs. While there is a need to improve course content and pedagogy, universities must also accommodate the digital gap amongst learners, that is, the variation in student access to digital devices and technical competence. Teacher education institutes should consider supporting in-service teachers to upgrade their technical skills and competencies. Furthermore, the synchronous and asynchronous activities used for online delivery need to be mobile-friendly so that all in-service teachers can participate in online learning regardless of whether they have access to laptops.

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