International Journal of Research in English Education (IJREE)

Original Article **Published online: 20 June 2023.**

Proceedings of the First National Virtual Conference on English Language Teaching in the Iranian Mainstream Education System

Virtual Pedagogical Internship Program in the Time of Covid-19: A Case of Iranian Pre-service EFL Teachers

Amin Jamali[1] & Shamsoddin Aref[1*]

* Correspondence:
aryaaref@gmail.com
1. Farhangian Teacher Training University

Proceedings of the First National Virtual Conference on English Language Teaching in the Iranian Mainstream Education System

Abstract

To assess the impact of the lockdown imposed by the novel COVID-19 pandemic on Iranian EFL teacher trainees, an online survey was conducted to see if pre-service teachers (PSTs) expose a positive level of preparedness and have a sufficient level of ICT skills to integrate into their virtual pedagogical internship (VPI) course. Quantitative and qualitative data were collected through a Likert scale questionnaire and three open-ended structured interview questions. Forty-one PSTs both male (*N*=33) and female (*N*=8) from Farhangian Teacher Training University (FTTU) in Zanjan participated in this study. Quantitative data analysis showed that the VPI course had been a disturbing experience for many participants (over 75%). Qualitative data analysis indicated that more than 50% of the PSTs were negatively exposed as they thought that their involvement had been viewed as unimportant, uninteresting, unsatisfying, or downright weak. The results likewise indicated that most participants failed to establish rapport with the students in their internship classes. They felt unconfident and uncertain about trying new ICT and felt insecure about proceeding with ICT as they lacked preparedness and comfort as well as awareness and expertise in the field. Although this study has clear implications for pre-service teachers and teacher trainers' future studies in the area may provide safe and sound results.

Keywords: COVID-19, EFL, ICT skill, lockdown, pre-service teacher (PST), virtual pedagogical internship

[Downloaded from mail.ijreeonline.com on 2026-11-19]

1. Introduction

Iranian Pre-service English as a Foreign Language (EFL) Teachers and Pre-Service Teachers (PSTs) of other majors studying at Farhangian Teacher Training University's (FTTU) branches are mandated to successfully pass eight credits worth of pedagogical internship in their junior and senior years of training before they can graduate. Research and studies over the years have shown that pedagogical internship is the most highly valued component constituting teacher education which, subsequently, effectuates the most meaningful and impactful events in the process of making PSTs ready for and conscious of the realities of the classroom (Davis & Roblyer, 2005, as cited in Pokhrel, 2020;Waters & Russell, 2016). What appears to be of critical importance in educating an integrated teacher who knows how to incorporate all the necessary skills for young citizens to be able to analyze and interpret phenomena, adapt to different situations, and learn from life's day to day activities is to have those teachers undergo a life-enriching pedagogical internship experience that expands social contacts and breeds pedagogical erudition, intuition, and introspection (Semenog & Shamunova, 2020).

Similar to how Waters and Russell (2016) put it, heretofore, this kind of internship was operationalized in traditional "brick and mortar" classrooms with supervising teachers on top of everything. However, after the novel coronavirus widespread effect, countries like Iran with little to no educational infrastructure for an infectious respiratory disease outbreak had to suspend or cancel all internship programs for the rest of the 2020 Winter/Spring semester. Consequently, it was no surprise to have FTTU's pedagogical internship programs face a paradigm shift like every other aspect of world education (Rony & Awal, 2020). With this in mind, virtual internships—a relatively new approach to the notion of on-the-job training—worked in favor of FTTU's plan to implement pedagogical internships more safely for the ensuing semester. While this may be true, virtual internship broaches concerns.

The first and foremost concern as regards virtual pedagogical internship (henceforth VPI) programs is the inevitably plethoric use of technology. Having to deal with technology as an informal obligation, Park and Son (2020) propose that PSTs of today's world should have adequate knowledge regarding modern technologies and know how to operate them better than their predecessors. However, the research findings by Ranellucci, Rosenberg, and Poitras (2020) on PST's intentions to use information and communication technology (ICT) in their classroom have shown that PSTs are still unprepared to utilize ICT in manners that would be satisfactory to all parties. Even though PSTs want to use ICT and see it as vital tools for teaching and learning nowadays, "they do not always feel fully prepared to start integrating technology effectively" (Tondeur, Pareja, Braak, Voogt, & Prestridge, 2016, p. 24).

However, based on Khatoony and Nezhadmehr (2020), Iranian in-service EFL teachers favor the utilization of ICT in the critical conditions of the Covid-19 pandemic and show a positive attitude toward virtual classes. Correspondingly, pre-service EFL teachers were also expected to adequately adapt to using online platforms in a technology-driven, virtual course of internship. While research has been done on FTTU's pedagogical internship program in Iran antecedent to this paper, none of them studied it broadly or essentially in a virtual context. This research is the first to investigate the case of Iranian pre-service EFL teachers' VPI course under a global pandemic's complicated circumstances. More specifically, the following research questions are examined:

1. Do Iranian pre-service EFL teachers have a sufficient level of ICT skills to integrate into their VPI course?
2. Do Iranian pre-service EFL teachers expose a positive level of preparedness in their VPI course?

2. Literature Review

As Sepulveda-Escobar and Morrison (2020) put it comprehensively, "Teacher education is the field of education that prepares teachers to be professional practitioners and is underpinned by standards that provide guidelines for the skills, values, and knowledge that teachers require" (p. 589). Nevertheless, since late February 2020, teacher education has been adrift on a global scale. There has been a wide range of E-learning media (e.g., Learning Management System (LMS), email, WhatsApp, Telegram, and the like) usage, and PSTs took part in computer-based and web-based learnings either synchronously or asynchronously (Abou Shaaban, 2020). As one of the promising forms of school-university partnership, pedagogical internship course is PSTs' best opportunity to observe the workings of school culture and actively participate in a professional, multidimensional setting involving supervising teachers, students, internship instructors, and administrators (Al Darwish, 2017; Merç, 2015; Miniurova & Belousova, 2020; Pokhrel, 2020). In the USA, the UK, and Japan, the pedagogical internship is a one-year mandatory program for PSTs during the education years or the first year of work at school, whereas in Canada and Germany, it could prolong to two

[Downloaded from mail.ijreeonline.com on 2026-11-19]

consecutive years (Miniurova & Belousova, 2020). In teacher education, virtual internships are like "online environments in which PSTs think and act as teachers through assignments based on authentic classroom contexts," Theelen, Willems, van den Beemt, Conijn, and den Brok (2020, p. 197) expound.

Pokhrel (2020) argues that the teaching profession is currently undertaking several challenges salient to its proliferation, e.g., global economy, competitive market place, students' changing demographic nature, and growing bodies of knowledge. Furthermore, the one challenge that has worked in favor of teacher educators' ERT and pedagogical-didactic aspect of PSTs' professional developmental path during the Covid-19 pandemic is the changing nature of the job and advanced technology (Dvir & Schatz-Oppenheimer, 2020; Pokhrel, 2020). Waters and Russell (2016) agree by adding, "as technology advances continue to change the face of education in the 21st century, pre-service teachers are now experiencing the opportunity to conduct their internships online at virtual schools" (p. 4). However, the Covid-19 crisis presents this opportunity with challenges that were unknown in the professional literature before (Dvir & Schatz-Oppenheimer, 2020).

Over the past year, numerous papers explored the challenges of teacher education transition posterior to the outbreak in several countries (e.g., see Semenog & Shamunova, 2020, for the case in Ukraine, Sepulveda-Escobar & Morrison, 2020, for the case in Chile; König, Jäger-Biela & Glutsch, 2020, for the case in Germany; Spoel, Noroozi, Schuurink & Ginkel, 2020, for the case in the Netherlands; Dvir & Schatz-Oppenheimer, 2020). These papers are crucial to this field of study in terms of evincing the education realities PSTs sustain. Answering "To what extent are pedagogical interns prepared to integrate ICT with internship activities?" is a good case in point to review as one of these realities. Findings from König et al. (2020) suggest opposed to expectations, PSTs and novice teachers who rise from Prensky's (2001) generation of "digital natives" are not as well-grounded in digital skills. König et al. (2020) adduce to surveys conducted in Germany and berates schools failing to catch up with the fundamental ICT transformation process and notes how fundamentally important ICT is to the professional development of PSTs. Nonetheless, Findings from Park & Son's (2020) interviews indicate that EFL pre-service teachers "did not seem to be motivated to implement technology-enhanced EFL lessons, and their adoption and application of ICTs for teaching appeared to be very limited" (p. 12). Moreover, the takeaway from Spoel et al.'s (2020) results is that only educators and PSTs "who had medium experience with ICT experienced remote teaching more positively than they had expected" (p. 631).

Also, Sepulveda-Escobar & Morrison (2020) believe the overall challenges of VPI during the pandemic outweigh the overall benefits. "The lack of previous experiences in the subfield of virtual education, the lack of preparation by their teacher education program, and the possible lack of expertise from both the school teachers and the university supervisors" (p. 602) are the reasons behind Sepulveda-Escobar and Morrison's (2020) credence. In addition to that, the lack of interaction (Spoel et al., 2020) and the sheer inadequacy of remote teaching-learning as a measure to seriously deal with the pandemic (König et al., 2020) have been all the more reason to begin research on VPI efficacy in the world and now in Iran.

3. Methodology

3.1 Design

In light of the Covid-19 lockdown restrictions and the fact that the two research questions were intended to be analyzed both quantitatively and qualitatively, the best course of action for this research project was to deploy a mixture of descriptive-survey and qualitative-narrative data collection tools in order to serve the purpose of the study best. The quantitative approach of the study convened the data to accurately describe pre-service EFL teachers' level of adaptation preparedness to virtual internship courses as is, whereas the qualitative facet of it tapped into the potential negative exposure, capturing as many attributable qualities as possible (Atmowardoyo, 2018).

3.2 Participants

After explaining the list of terms, conditions, and guidelines of the research, 41 third-year (N=31) and fourth-year (N=10) pre-service EFL teachers concurred to participate voluntarily. All participants had taken the 2020-2021 Fall/Winter Semester's internship course at Zanjan province's all-male Shahid Beheshti (N=33) or all-female Alzahra (N=8) FTTU campus. They were age-mates of 20-23 years old. It was made sure that all of the participants had the same educational background and had taken the same ICT courses prior to the study. All 41 participants were asked to complete each item with extreme caution. Everyone was ensured that the data collected from them would be kept

[Downloaded from mail.ijreeonline.com on 2026-11-19]

confidential and only be used to serve the purpose of the current study. Notably, the entire process of arranging and scheduling was done via online and telecommunication tools.

3.3 Instrumentation

This research avails of a survey entitled Virtual Pedagogical Internship Preparedness (henceforward VPIP) comprising a questionnaire of two itemized enneads along with a set of interview questions following it up. Serving as the single data collection tool deployed, this survey was formatted on Google Forms, a web-based survey administration software. It is appreciable that the entirety of the VPIP survey was in English.

3.3.1 Questionnaire

The questionnaire thrived on exhaustive but concise items. Eighteen uncomplicated, well-articulated statements, each designed to inquire a portion of the answer to either of two research questions. The ELT virtual interns were asked to read each item and rate how relevant it was to them on a Likert-type scale ranging from Strongly Disagree (1) to Strongly Agree (5). The items were developed based on the information collected through a thorough literature review in the area. The outward appearance of the finalize questionnaire bears a resemblance to Faculty Readiness for Online Crisis Teaching (FROCT) scale by Cutri, Mena, and Whiting (2020). After all the items were devised, they were reviewed on several different levels by an adept pedagogical internship instructor/supervising teacher. Based on his suggestions, revisions were made to optimize the content and face validity of the questionnaire. Sundry items were displaced, some were partially rephrased, and others were outright changed. Nebulous terms were clarified in the same way ambivalent phrases were rectified. The more straightforward the items were, the easier it was for PSTs to deliver more accurate answers, the better. Cronhach's Alpha reliability coefficient was calculated to be .73 for this questionnaire.

3.3.2 Interview

In the third and final section of the survey, the participants were inclined to give sincere descriptive answers to three open-ended structured interview questions. Respondents were exceptionally permitted to type down in their native language, Farsi, to avoid possible misunderstandings. This interview helped provide in-depth qualitative information pertaining to ELT virtual interns' experiences and viewpoints of FTTU's VPI course (Turner, 2010). The expert review was adopted again to ensure the interview questions' validity and led to the omission of one question and the remaining three's modification. Volunteers were obliged to reply to all three questions to be able to submit their final answers.

3.4 Procedure

The participants were invited to partake through a respondent-exclusive link privately messaged to them via safe social media messaging applications on January 2, nearly 3 months after FTTU's VPI program initiation. Notwithstanding poor control over the participants was an undeniable demerit of this online survey, its merits, namely, easy administration, safe and fast conduct, and low cost, outweighed (Roopa & Rani, 2012). Less than a week later, on January 5, all participants had submitted their responses, ready for tabulation and analysis. It is notable that of the initial cohort of 41, the responses of participants 22, 23, 28, 29, 33, and 34 were examined to be exceedingly error-prone and consequently excluded. The 35 remaining eligible participants (29 males and 6 females) had attended the virtual internship in junior (17) and senior (18) high schools in over 20 dissimilar towns or villages, e.g., Abhar, Malayer, Marand, Sarab, and Talesh in 7 different provinces, i.e., Ardabil, East Azerbaijan, Hamadan, Kurdistan, Qazvin, West Azerbaijan, and Zanjan.

Frequencies and percentages belonging to the questionnaire section were automatically calculated by Google Forms software. For each item in the questionnaire, the level of agreement or disagreement with the highest rate was determined as the criterion level. Apropos the interview section, as was permitted, seven participants had written in Farsi, which was precisely translated into English. English responses with typographical errors or grammatical mistakes were also edited; no change has been big enough to pervert the intended meaning. Since the qualitative results of a research can never be measured exactly, text analysis was done through following, interpreting, and organizing patterns into categories (Soiferman, 2010).

4. Results

Posterior to allocation, completion, collection, and calculation, the VPIP survey yielded the data in the tables below.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

4.1 Results of the First Research Question

The first purpose of this study was to find out whether pre-service EFL teachers have a sufficient level of ICT skills to integrate into their VPI course. Table 1 shows the results of the quantitative data acquired for this purpose.

Table 1. Pre-service EFL teachers' level of ICT skills

Item	SD	D	U	A	SA
I would rather experience a regular mode of internship (i.e., in-person).	8.6%	5.7%	8.6%	25.7%	51.4%
I could easily build a rapport with students and foster my relationship with them in my virtual internship classes.	11.4%	34.3%	28.6%	20%	5.7%
I try new teaching ICT (Information and Communication Technology) in my virtual internship course before I have fully mastered them.	8.6%	22.9%	37.1%	22.9%	8.6%
I have thought of creating or have created new methods of online teaching during my internship.	11.4%	17.1%	14.3%	34.3%	22.9%
I have strategies to help manage any fear or concern I might have when my supervising teacher teaches or asks me to teach virtually.	11.4%	22.9%	17.1%	34.3%	14.3%
My supervising teacher handles their virtual classes very well that makes me interested in proceeding my virtual internship sessions more willingly.	20%	22.9%	17.1%	17.1%	22.9%
I am comfortable with relying LESS on my supervising teacher's instructions on using ICT.	0%	8.6%	37.1%	40%	14.3%
I am confident about proceeding my internship courses with the help of ICT.	5.7%	22.9%	28.6%	25.7%	17.1%
Internship courses' transition from in-person to virtual has made me doubt the sufficiency of my level of ICT preparedness.	5.7%	25.7%	31.4%	25.7%	11.4%

As a response to whether pre-service EFL teachers try new teaching ICT in the virtual internship, feel confident about proceeding the virtual internship with the help of ICT, or doubt the sufficiency of their level of ICT preparedness due to the transition from in-person to virtual, Table 1 divulged that the majority of them were in a state of uncertainty with 31.4, 37.1, and 28.6 percent undecided, respectively. 34.3 percent of the virtual interns also admitted that they were not able to build a rapport with students and foster their relationship with them throughout the course by disagreeing with the statement. Approximately one-third (34.3%) of the participants interestingly agreed that they put forward new online teaching methods and successfully managed their virtual internship fear. There was not a decisive result for whether supervising teachers' well handling compelled pre-service EFL teachers to proceed with virtual internship sessions more willingly; Of those surveyed, sixteen (45.8%) have suggested a tie between disagree and strongly agree, but the next highest number belongs to those who strongly disagreed with 20 percent (seven participants). So a tally of 42.9 percent evaluated their supervising teacher not fully qualified or not qualified at all for online teaching-learning. Since hardly any pre-service EFL teacher found motivation in their supervising teacher's virtual handling, the significant 40 percent who agreed they felt comfortable relying less on supervising teacher's instructions on using ICT can be patently justified. Taken as a whole, the quantitative results for the first research question were negative. It is substantiated by the fact that disturbing experiences with ICT usage during the virtual internship sessions led a great majority (over two-thirds) of the pre-service EFL teachers who participated to either agree (with 25.7%) or strongly agree (with 51.4%) that they would rather experience an in-person internship.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

The first interview question addressed the first research question with a descriptive angle. The question was, "After having had sessions of virtual internship during the Covid-19 pandemic, do you think that you need to improve your ICT skills? Why?" Tables 2-4 show the results of the qualitative data acquired for this question.

Table 2. Participants who disclaimed the urge for improvement in the ICT area

P_1: Not really. I haven't sensed such a need because I believe I am ICT-and-computer-literate enough to proceed with my virtual internship conveniently.

P_3: Nope, not at all; being able to adapt to new technology, and having prior knowledge about it, makes it easy for me to match up with it.

P_5: Information and Communications Technology doesn't concern me.

P_{10}: No. Because these skills are useless.

P_{14}: No! Doesn't matter!

P_{17}: As a 21_{st} century person who knows some English, virtual internship didn't make me feel like I need to improve my ICT skills, but I make out how an educational application could be useless.

P_{19}: I was already at a good level of ICT skills, and I didn't face any challenges during the term that would persuade me to improve my ICT skills.

P_{21}: I had already known enough about the required ICT skills; by the way, this pandemic makes me try more to develop.

- **P** in this table stands for participant.

The eight participants in Table 2 averred they do not need improvement in the ICT area, and except for three participants, who opined this skill is useless (P_{10}), unimportant (P_{14}), or not a concern (P_5), a majority consisting of participants 1, 3, 17, 19 and 21 believed the reason to be their already-enough prior literacy and knowledge of the area.

Table 3. Participants who accepted the urge for improvement in the ICT area

P_2: I strongly do. COVID-19 was an incident, and it made me see how uncomfortable I was with the online courses. The internship was almost as good as nothing, and I am still lost. To prevent what happened before, I need to improve myself.

P_4: Obviously, Yes. I, as a student, should improve every skill, especially ICT.

P_6: It absolutely is required. To help students increase learning efficiency, it's necessary, and as a future English teacher, my knowledge and skills should be updated.

P_7: The more you learn, the better conclusion it has for you. But I could reach to the point that I wanted.

P_9: Sure thing. Never heard of ICT before.

P_{11}: I think it is necessary to know ICT more and more. The more we know about ICT, the more efficiently we can improve our teaching methods. Nevertheless, it depends on anybody's knowledge of ICT, and we cannot say that, for example, all the teacher trainees should focus on ICT.

P_{12}: Yes. Because I'll need it for the future of my career.

P_{13}: I absolutely do. Because all we have been taught so far is theoretical, and internship is a challenging area that can get us into trouble with spotting our weaknesses and flaws.

P_{15}: Yes, I think so. Because there are lots of things that I have to learn and develop my ICT skills. I have to participate in some classes to improve myself.

P_{16}: Of course. We see many teachers who, due to their unfamiliarity with ICT skills, cannot teach as they should, and naturally, the efficiency of this teaching is very low and students have difficulty learning.

P_{18}: Yeah, definitely. Because you need to be prepared.

P_{20}: Yes. There are many tools and software that I can use to teach more effectively, and I need to learn at least the basics of them.

P_{25}: Yes. Because the students are interested in new technologies, and if I am able to use them more and integrate new methods in my teaching process, I can attract their attention more in classes. And also, if a teacher is knowledgeable in every aspect, especially in technology, she/he will feel more confident in class.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

P_{26}: Yes. Although I am good at working with technology, but I think doing everything online especially being an online teacher and managing the class through the phone is pretty demanding.

P_{30}: Yes, absolutely. Because it plays a crucial role in progressing in this field.

P_{32}: Yes. Because I lack in a lot of aspects.

P_{37}: 100% yes. I have always had trouble operating and putting technology tools in use. Virtual internship has convinced me to learn and improve myself more in this area.

P_{39}: Yes. Because I used to think I know all about it but I've been having so many problems.

P_{41}: Of course. I always need to improve my skills. Having ICT skills is an open-ended option which I can never claim I don't need more of.

- **P** in this table stands for participant.

Rationalizing their short answers by suggesting unambiguously detailed reasons, Table 3 specifies nineteen participants who averred they need improvement in the ICT area. Participant 2 explained he strongly needs to improve himself because he has realized how uncomfortable he had been with the online courses, whereas participant 9 declared it is because he has never heard of ICT before. Participant 4 stated as a PST, he should improve his ICT skills along with every other skill. Participant 6 said as a future up-to-date English teacher, and also to help students increase learning efficiency, he is required to improve his ICT skills. Participant 16 delineated of course he needs to improve his ICT skills, since many teachers who, due to their unfamiliarity with ICT skills, cannot teach as they should, and it leads to very low-efficiency teachings on top of difficult learnings. Participants 32 and 39 conceded they lack in many aspects and have been having many problems with ICT, with which participant 37 corresponded by tallying, "I have always had trouble operating and putting technology tools in use."

Participant 41 emphasized, "Having ICT skills is an open-ended option which I can never claim I don't need more of," which resembled participant 11's ("The more we know about ICT, the more efficiently we can improve our teaching methods.") and participant 7's ("The more you learn, the better conclusion it has for you.") responses. Participants 15 and 20 noted there are many tools and software they need to learn at least the basics of to improve their ICT skills. Participant 25 explicated feeling confident in class due to knowledgeability in every aspect, especially in technology, and students' interest in new technologies intrigue her to improve her ICT skills. Furthermore, the online internship is a challenge too demanding to abjure self-improvement in ICT skills, according to participants 13 and 26. In addition to that, participants 12 and 30 believed ICT to be a necessity to the future of their career and a crucial role-player in progressing in this field. As a final response in this category, P_{18} pointed out he needs to improve in ICT merely "because you need to be prepared."

Table 4. Undecided or unclear participants

P_{8}: Not really. Because I could foster good rapport with students, but nothing is complete. Therefore, I'd like to improve myself.

P_{24}: It's not enough to only improve the skills; equipment and services like having a laptop, a proper smartphone, a decent internet connection, and of course, the money to buy all of these are also important. I myself had to change phones for this semester's online learning, but skills are also vital and every teacher is going to need them.

P_{27}: Yes. Because almost all of our academic knowledge and information is not implementable and practical at first. Considering the current situation, mastering the internet infrastructure needs to be the priority of about half of the pre-service teachers who, unluckily, has not mastered it yet.

P_{31}: I don't know. Because I had no participation in class, so there was no use of any skill.

P_{35}: Yes and No. Because I'm familiar with the basics, and have kept putting them into work over and over, so this won't be necessary. But if I'm to work with it professionally, then I will need to educate myself more.

P_{36}: Personally, my skills about ICT during Virtual internship didn't bother me. But it's always good to get better.

P_{38}: I think ICT infrastructure must be improved rather than my skills, due to the large number of problems which we are challenged by along the online education.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

P_{40}: Yes, I do. Our virtual internship course is proper for virtual classes (!). We may need in-person sessions.

- **P** in this table stands for participant.

P_8, P_{35}, and P_{36} were the three participants who were contented by their ICT level but will still thrive on further improvement. Serving as an exemplar, when he was asked the last interview question, participant 35 replied, "Yes and No." He elaborated, "[Yes,] because I'm familiar with the basics and have kept putting them into work over and over, so this won't be necessary. [No, because] if I'm to work with it professionally, then I will need to educate myself more." Nevertheless, self-improvement in ICT skills failed to be participant 24's and 38's top-priority, compelling them to name ICT infrastructures, equipment, and services as the primal factors needing improvement. The other three responses in Table 4 (from participants 27, 31, and 40) were either unclear or sketchy to be scrutinized and taken into analysis.

4.2 Results of the Second Research Question

The second purpose of this study was to find out whether pre-service EFL teachers expose a positive level of preparedness in their VPI course. Table 5 shows the results of the quantitative data acquired for this purpose.

Table 5. Positive/negative exposure of pre-service EFL teachers' preparedness

Item	SD	D	U	A	SA
I welcome novel teaching practices during virtual internship.	5.7%	11.4%	40%	25.7%	17.1%
I think virtual internship makes me feel more unprepared than in-person internship.	14.3%	11.4%	8.6%	37.1%	28.6%
Virtual internship negatively challenges my sense of who I am as a pre-service EFL teacher.	2.9%	25.7%	25.7%	34.3%	11.4%
I am comfortable when my supervising teacher teaches or asks me to teach virtually.	5.7%	25.7%	22.9%	28.6%	17.1%
I experience fear and anxiety when my supervising teacher teaches or asks me to teach virtually.	17.1%	40%	14.3%	22.9%	5.7%
I have not yet established a way to be comfortable with virtual internship (i.e., entirely online).	22.9%	14.3%	31.4%	22.9%	8.6%
Virtual internship challenges how I represent myself as a pre-service EFL teacher by making me feel insecure about my abilities.	17.1%	8.6%	42.9%	20%	11.4%
My access to online course necessities (e.g., internet access; device access; safe place, etc.) may not be enough for me to do my virtual internship assignments and requirements.	22.9%	25.7%	8.6%	22.9%	20%
Before starting virtual internship, I needed to learn more about it.	5.7%	22.9%	20%	17.1%	34.3%

As for the second research question, Table 5 depicts 20 participants did not experience fear or anxiety when it comes to teaching in the virtual internship sessions, and even 16 felt comfortable when asked by their supervising teacher to do it. However, 23 reported that they felt more unprepared in the virtual internship, and 16 claimed it negatively challenged their sense of who they are as pre-service EFL teachers. 40 percent of the respondents were not sure if they welcome novel teaching practices in the virtual internship, and 42.9 percent did not know for certain if the virtual internship challenges how they represent themselves as pre-service EFL teachers. Additionally, 31.4 percent of the interns were insecure about having been able to establish a way to be comfortable with the virtual internship. Gaining access to online course necessities was seemingly not a problem for 17 PSTs. Overall, although 34.3 percent of PSTs

[Downloaded from mail.ijreeonline.com on 2026-11-19]

strongly agreed that they needed to learn more about the virtual internship before starting it, quantitative evidence fails to conclusively elucidate whether the Covid-19 pandemic has positively or negatively exposed Iranian pre-service EFL teachers' level of preparedness for the VPI.

The second interview question inquired about the pre-service EFL teachers' insight into students' general feelings about the interns' share of involvement in the class, and directly deals with how these PSTs were exposed to students; positively or negatively. The question was, "How do you think the students in your virtual internship classes feel about your share of involvement in class participation?" Tables 6-8 show the results of the qualitative data acquired for this question.

Table 6. Participants who were negatively exposed

P_2: Personally, I had a very small influence in the class. The online teaching was new to the teacher and the students. Their goals and achievements were too blurry, and they could barely handle the class themselves. I tried to help, but students did not seem interested.
P_3: I don't think they would feel anything different; most of the times they wouldn't even notice me being there.
P_4: I had no visible participation.
P_5: You may do lots of things in your virtual class, but students may not feel that you're engaged enough.
P_6: First of all, they were confused because they didn't know me and they mostly paid attention to their teacher as he is more experienced than me, so it was not very well.
P_9: They are teenagers; therefore, they are compelled to be indifferent.
P_{10}: They feel my involvement is weak.
P_{11}: I think my participation has not seemed important to the students so much. In fact, they study in a SAMPAD school and they do their plan carefully. However, I think if I provide them with some useful points about English textbook, they will feel more comfortable with me. Generally, they appreciate any kind of information about their lessons.
P_{15}: The students are not interested in virtual classes, unfortunately, and they do not even care about their own teacher. As a result, they do not take the classes seriously, and they think that I am just in the class to pass the time.
P_{16}: I've not done anything yet.
P_{17}: I could not register in SHAD in order to participate in classes up to now.
P_{21}: To be honest, I had almost no participation in the class due to the rule.
P_{25}: Because the teacher doesn't pay attention to me in class, the students are not aware of my role in virtual classes.
P_{26}: They barely react to my presence; I think they even don't know who I am and why I am there.
P_{27}: In light of the new circumstances, most students are not even aware of us interns being in the class, except for maybe the 12^{th} graders, since they had already had experiences with interns in previous years. They think that we are not doing a great job taking part in class activities in comparison to interns of prior years, and that they basically cannot imagine us doing something useful.
P_{31}: I have no participation, so I think they don't even know that I am there.
P_{35}: The classes' English teacher has provided me with an environment to be more of an observer rather than letting me try doing anything. As a result, I only observe the class activities as an extra individual.
P_{36}: Some of the students are interested in my involvement, but mostly, they don't care.
P_{38}: I do believe an intern's participation in the class may seem new to them because they have not experienced it before, and therefore, they may feel deeply unsatisfied.
P_{39}: They were indifferent and unwelcoming.
P_{41}: I have no chance to type in their group or introduce myself. Students have no idea who I am, and just the teacher knows me.

- **P** in this table stands for participant.

Eleven participants held the opinion that in the students' eyes, their involvement was unimportant (P_3, P_{11}, P_{36}, P_{41}), unengaging (P_5), uninteresting (P_2), unsatisfying (P_{27}, P_{38}), or in ways weak (P_6, P_{10}, P_{15}). Four (P_9, P_{25}, P_{26}, P_{39})

[Downloaded from mail.ijreeonline.com on 2026-11-19]

interpreted the students' feelings towards them as indifferent and, in participant 39's case, even unwelcoming. The six remaining participants in Table 6 (P_4, P_{16}, P_{17}, P_{21}, P_{31}, and P35) did not do anything significant to be expecting feedback to deduce the students' feelings from, which counts as a negative exposure in that they played an unserviceable role.

Table 7. Participants who were positively exposed

P_1: I'm of the opinion that they pay me more attention than they do their teacher. I don't really know why, and I don't intend to misguide you with my lack of certainty, so I'll just say this that of all the involvement I have as an intern, such as teaching and helping students practice the new lesson, everything has been appreciated so far.
P_8: They are interested in it, and they passionately ask questions.
P_{12}: They feel good.
P_{13}: First, they did not feel at home with me, which is only natural and fair, and I tried to be more available and relatable. Luckily, they sensed my good intentions and understood me. Now, the students and I are in a good place in our relationship.
P_{14}: I feel that they like it! Because they don't want to see their own teacher!
P_{18}: Not bad.
P_{19}: They kind of like the involvement of a person other than their own official teacher in the teaching process.
P_{20}: I think they really like the idea of having a teacher assistant in their classes.
P_{24}: I guess they like it and maybe enjoy it because it's an interesting happening in their eyes. They have someone else, not a teacher and not a student! And it can be a nice motivation for the ones who love being a teacher.
P_{37}: They treated me the same way they treat their teacher, and they responded to my level of authority in class as appropriately as they did to their teacher's.
P_{40}: They may feel the involvement is proper.

- **P** in this table stands for participant.

Among the PSTs declaring they were deemed a positive influence by the students in Table 7 above are participants 14, 19, 20, and 24. They explained the reason was that the students liked the idea of having someone other than the English teacher in the class; not another teacher, not another student, but someone in between. P_{12} wrote the students felt good, and P_{13} described the students and him were in a good place in their relationship. However, P_{18} and P_{40} were not as determined about it in that they précis the students felt not bad and may felt the involvement is proper. Only participants 1, 8, and 37 articulated they were treated with passion and respect.

Table 8. Undecided or unclear participants

P_7: Mostly, they ask questions, and I answer them, but there was no face-to-face relation.
P_{30}: I think the relationship between the teacher and his students is not fully conducted, so this may lead them to have a negative attitude toward the virtual teaching and learning process.
P_{32}: They see me as an assistant.

- **P** in this table stands for participant.

The other three responses (from participants 7, 30, and 32) were either unclear or sketchy to be scrutinized and taken into analysis. The third interview question inquired into the pre-service EFL teachers' take on the virtual internship compared to the in-person internship. The question was, "How would you evaluate the content of your virtual internship (i.e., different aspects of it, e.g., emotional, educational, etc.) compared to an in-person internship?" Tables 9-11 show the results of the qualitative data acquired for this question.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

Table 9. Participants who held the virtual internship to be superior

P6: The emotional part of it was admirable. There was a rule during the virtual class that everyone should respect each other. The teaching methods have been used perfectly, and they were really helpful.
P9: In-person internship takes its toll, given enough time. Though when it comes to VI, there's room for creativity and all sorts of content to be delivered.
P19: For me personally, the virtual internship is more efficient than the in-person internship as I can work on more flexible schedules.

- **P** in this table stands for participant.

Table 9 illustrates that participants 6, 9, and 19 agreed on the superiority of the virtual internship by admiring its emotional aspect, creative potentials, and flexible schedule, respectively.

Table 10. Participants who held the virtual internship to be inferior

P1: I have not experienced in-person internship myself, but I know for a fact that it would have worked out way better than VI did. Just being there in the school environment and interacting with the teachers, students, principal, and vice-principals is something incomparable to sitting behind a laptop and passively observing from miles away.
P2: The main goal of an internship program is for the student teachers to experience the sets of possible challenges they should be expecting to go through; I did not have that. The virtual internship had its own sets of challenges; many weren't solved even by the teacher. So I'd say that my experience was too little to bear any good for the future.
P3: Poor, if I may say; in my opinion, being virtual takes away that kind of real experience which you would've learned in an in-person internship.
P4: They are not even comparable; virtual internship was just wasting time and energy.
P8: It's was not real, and I had to express myself through voice messages and intonation instead of eye contact. Moreover, teaching online is easier and more effective in some areas, but the lack of facilities made it hard and LESS effective (most of the students could not connect to the system on time due to weak internet).
P10: Weak.
P11: I think if we had an in-person internship, we would get more concrete points from our supervising teacher. In this case, we could also share some issues that we had observed in the schools with our supervising teacher; so, we could get more feedbacks from him and it could be more impressive.
P12: I like in-person internship more than this one that we have now, but unfortunately, we're stuck with this one for now.
P15: I guess my virtual internship was poor in different ways because I could not meet the students in classes and observe the issues directly. In my humble opinion, I could be more active by being in the class.
P17: In-person internship is a super-challenging event due to its results in any future EFL teacher's attitude, which cannot be compared with this soulless virtual internship.
P20: It was much more convenient for me to use a whiteboard and a marker to teach everything one by one and slowly rather than just typing.
P21: I can say it was definitely nothing! I almost learnt nothing in comparison to the real practicum that I had always heard of!
P24: I haven't participated in an in-person internship courses because I'm only studying my fifth semester here at the university, but I did go to my internship school for course assignments three times. I feel an in-person internship would have taught me more and made me go through more experiences, maybe even better ones. But unfortunately, it did not happen. Besides that, it gives me hope whenever I see the teacher making the class have a good time learning online.
P25: I think that the relationships and education were better in in-person classes, and the virtual classes reduced the efficiency of internship and education.
P26: I think it is not effective enough. I couldn't access the information I needed for my internship reports, I could barely see teachers and other staff, and I never contacted students or learned anything useful.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

P_{27}: Since no group of interns has ever done this course under these conditions, it is not possible to give an accurately factual opinion on it. But based on hearsay and our own experience with the virtual internship, it can be perceived that an in-person internship leads to more ideal results.

P_{30}: I believe that I cannot fulfill my duties or potentials in virtual internship process.

P_{31}: I believe that my virtual internship content would be much better in an in-person situation.

P_{32}: I prefer an in-person internship.

P_{35}: Virtual schooling has been a massive shock to the whole education system, and it functioned as a filter of segregating under-achieved teachers who keep showing more and more weaknesses. I have witnessed a quality decrease in every aspect of the internship course. But adapting to the current situation and being part of the solution rather than the problems of personal sort (especially with the help of Action Research) is the only way out.

P_{36}: I think virtual classes are kind of the same as in-person classes; maybe in-person classes are richer than virtual ones in the emotional aspect. But in other aspects, I can say there are no differences.

P_{37}: Without a shadow of a doubt, an in-person internship is much better and more practical than an internship in virtual environments, and it has not been a good experience for me to sit through the soulless virtual internship classes with students. I prefer an in-person internship and being in the actual environment of the class.

P_{38}: I do not reckon the virtual internship will ever work the same as the in-person internship. Interns cannot observe class activities the same as in the in-person internship. I also cannot deal with students' diverse emotions.

P_{39}: In my idea, an in-person internship is better because you can have a real physical presence among the students, and feel more intimate emotionally as well.

P_{40}: Maybe it's not as useful as an in-person internship.

P_{41}: Emotional communications have no meaning except some emojis or stickers! The virtual internship is mostly like a data transferring machine!

- **P** in this table stands for participant.

Of roughly two-thirds of the participants who were evidently discontented with the virtual internship course in Table 10, five (P_8, P_{10}, P_{12}, P_{20}, P_{35}) were in their fourth and final academic year. They remarked how they witnessed a quality decrease in every aspect of the internship course (P_{35}) and evaluated the current course as less effective (P_8), less convenient (P_{20}), less likable (P_{12}), or just weak (P_{10}). Of the twenty-one juniors in this category, P_{25} and P_{26} had a similar outlook to the seniors'. P_3 and P_{15} opined their virtual internship was poor, P_4 and P_{17} presumed it was incomparable to an in-person course, and P_2, P_{21}, and P_{40} supposed it was useless or not as useful. Participants 1, 11, 38, and 39 agreed with the school environment's interactions fulfilled by physical presence and supervising teachers' real-time coaching being the exclusive element of in-person internship courses. In contrast, participants 36 and 41 commented the virtual internship falls short of the in-person internship only in the emotional aspect. The remaining six (P_{24}, P_{27}, P_{30}, P_{31}, P_{32}, and P_{37}) did not find the virtual internship course ample.

Table 11. Undecided or unclear participants

P_5: Completely different.

P_7: I myself try to dedicate so much time to getting to know the students and their classes, but it was so hard.

P_{13}: Surely, virtual internship differs from actual internship in a lot of ways. The center of attention in virtual internship is the concepts and methods of teaching, but it is the interpersonal relationships among students, teachers, and other personnel that matter in actual internship.

P_{14}: I have no Idea!

P_{16}: Checking the completeness of the reports based on the internship guide (According to A Practical Guide to Pedagogical Internship – FTTU Publications)

P_{18}: Very hard.

- **P** in this table stands for participant.

[Downloaded from mail.ijreeonline.com on 2026-11-19]

P_5 and P_{13} stated the disparity between the two types of courses, and P_7 and P_{18} acknowledged the virtual course's adversity. The other two responses in Table 11 (from participants 14 and 16) were either unclear or sketchy to be scrutinized and taken into analysis.

5. Discussion and Conclusion

The current study attempted to investigate Iranian pre-service EFL teachers' level of ICT preparedness and adaption to online platforms as part of their VPI program in the time of Covid-19 by undertaking a mixed-method approach via VPIP survey. A prevalent theme identified in the qualitative data analysis is how Iranian PSTs feel the need for ICT skills improvement. They presented varyingly personal reasons for this matter, e.g., lacking preparedness and comfort, lacking awareness and expertise, abounding troubles toward ICT, and other outweighing challenges of VPI discussed in Sepulveda-Escobar and Morrison (2020) are to mention but a few. Of course, these challenges are not exclusive to dealing with ICT during the unprecedented times of the Covid-19 global pandemic, but it is comprehended, and Dvir and Schatz-Oppenheimer (2020) agree, that challenges involving ICT usage went under the spotlight because of the temporal and spatial shifts to the virtual realm succeeding the outbreak.

Furthermore, Iranian EFL teachers-to-be report to have hands-on access to online internship course necessities and disclaim reliability on supervising teachers' instructions about using ICT; however, they are doubtful of trying new teaching ICT and feel insecure about proceeding with ICT, meaning PSTs of EFL do not seem to have enough motivation to further adopt and apply ICT in their virtual internship, with which Park and Son (2020) are in conformity. In addition to that, the abrupt transition from in-person to online left these PSTs—and irrefutably PSTs of other majors from other nations as well—afloat in a state of uncertainty about having a sufficient level of ICT skills to integrate into their virtual internship course.

A prominent theme that arose from the findings of both qualitative and quantitative portions of the survey and is of paramount importance to this study's purpose is how Iranian pre-service EFL teachers were impotent to build a rapport and foster a relationship with the students in their internship classes. O'Dea and Peralta (2011) reaffirm that for PSTs to go through an "enjoyable" internship experience, they ought to develop professional relationships with their students and supervising teachers. But Iranian EFL teachers-to-be evidently did not experience an enjoyable internship since the students' feelings toward the PSTs' share of virtual class involvement is described as weak, unimportant, unengaging, uninteresting, and unsatisfying. This negative exposure in the students' eyes is dominantly derived from the lack of interaction institutionalized in the virtuality of the internship environment accentuated by Spoel et al. (2020) that also negatively challenged the interns' sense of who they are as pre-service EFL teachers and triggered the perception of a more lacking preparedness than an in-person internship.

A statistically significant number of Iranian EFL teachers-to-be inferred what König et al. (2020) discussed about the inadequacy of teaching-learning in a virtual environment. Iranian PSTs of EFL averred they would rather experience a regular mode of internship, i.e., in-person, and when inquired about their evaluative take on the different content of the virtual internship, one of the major themes that emerged was how virtual internship could not live up to the notion of an in-person internship, emotionally or education-wise. Iranian EFL teachers-to-be hold the virtual experience inferior to their experience or assumption of an in-person pedagogical internship. However, like Theelen et al. (2020) concluded in the case of Dutch PSTs, Iranian pre-service EFL teachers successfully managed their virtual internship fear and experienced little to no fear or anxiety of teaching in virtual sessions, accordingly implying the virtual type of internship—if designed carefully—can be a valuable teacher education method to alleviate PSTs professional anxiety.

Limitations must be discussed, the value of all findings notwithstanding. The small initial cohort of 41 participants marks the first limit in this study. However small the cohort of participants, they attended the virtual internship in seven different Iran provinces that cover the country's entire northwest region. Thus, the findings can be generalized to every Iranian pre-service EFL teacher's virtual internship experience countrywide. A second limitation appears when it becomes hardly possible to generalize these results to other country's VPI contexts (König et al., 2020) since "virtual internships are context related" (Theelen et al., 2020, p. 208).

5.1 Implications and Suggestions

As the title of the research suggests, this study focused on the case of Iranian pre-service EFL teachers' VPI program and marginalized the role of supporting actors, e.g., supervising teachers. Simultaneously, one of the intriguing

[Downloaded from mail.ijreeonline.com on 2026-11-19]

findings of this study was how Iranian PSTs of EFL hardly found motivation in their supervising teachers' virtual handling and disqualified them. Further research is recommended on the educative role of supervising teachers and internship instructors in VPI contexts. Based on the PSTs admission of needing to know more than they were informed about the virtual internship's procedural and process syllabuses before starting it, an important implication turns out; in the pandemic times of social distancing and telecommunicating, it is imperative to the integrity of the VPI program to be developed thoroughly. FTTU should act more informative and collaborative with all stakeholders of this program—including pedagogical interns, internship schools' administrations, supervising teachers, internship instructors, and the like (Pokhrel, 2020). As a closing suggestion, considering the VPI experience of Iranian pre-service EFL teachers, research can be instigated on how it will impact their future classroom teaching.

References

Abou Shaabani, S. S. (2020). TEFL professors' E-learning experiences during the Covid-19 pandemic. *European Journal of Foreign Language Teaching, 5*(1), 82-97. doi:10.46827/ejfl.v5i1.3202

Al Darwish, S. (2017). The influence of the practicum course on EFL student teachers. *International Journal of English Language Teaching, 5*(1), 15-27. https://www.eajournals.org/wp-content/uploads/The-Influence-of-the-Practicum-Course-on-EFL-Student-Teachers.pdf

Atmowardoyo, H. (2018). Research methods in TEFL studies: Descriptive research, case study, error analysis, & R & D. *Journal of Language Teaching and Research, 9*(1), 197-204. doi:10.17507/jltr.0901.25

Azungah, T. (2018). Qualitative research: deductive and inductive approaches to data analysis. *Qualitative Research Journal, 18*(4), 383-400. doi:10.1108/qrj-d-18-00035

Cutri, R. M., Mena, J., & Whiting, E. F. (2020). Faculty readiness for online crisis teaching: Transitioning to online teaching during the COVID-19 pandemic. *European Journal of Teacher Education, 43*(4), 523-541. https://doi.org/10.1080/02619768.2020.1815702

Dvir, N., & Schatz-Oppenheimer, O. (2020). Novice teachers in a changing reality. *European Journal of Teacher Education, 43*(4), 639-656. doi:10.1080/02619768.2020.1821360

Khatoony, S., & Nezhadmehr, M. (2020). EFL teachers' challenges in the integration of technology for online classrooms during coronavirus (COVID-19) pandemic in Iran. *AJELP: The Asian Journal of English Language & Pedagogy, 8,* 1-16. doi:10.37134/ajelp.vol8.sp.1.2020

König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: Teacher education and teacher competence effects among early career teachers in Germany. *European Journal of Teacher Education, 43*(4), 608-622. doi:10.1080/02619768.2020.1809650

Merç, A. (2015). Assessing the performance in EFL teaching practicum: Student teachers' views. *International Journal of Higher Education, 4*(2), 44-56. doi:10.5430/ijhe.v4n2p44

Miniurova, S. A., & Belousova, N. S. (2020). Pedagogical internship as a tool of teacher professional formation. *VI International Forum on Teacher Education, 3,* 1647-1655. doi:10.3897/ap.2.e1647

O'Dea, J. A., & Peralta, L. R. (2011). Perceptions of the teaching practicum among human Movement and health education pre-service teachers in Australia: The Role of university coursework, University-school partnerships and E-learning. *Waikato Journal of Education, 16*(1), 77-92. doi:10.15663/wje.v16i1.72

Park, M., & Son, J. B. (2020). Pre-service EFL teachers' readiness in computer-assisted language learning and teaching. *Asia Pacific Journal of Education*, 1-15. doi:10.1080/02188791.2020.1815649

Pokhrel, P. R. (2020). EFL teacher trainees' experiences in their practicum. *International Academic Journal of Education & Literature, 1*(5), 156-162. doi:10.47310/iajel.2020.v01i05.001

Ranellucci, J., Rosenberg, J., & Poitras, E. (2020). *Exploring pre-service teachers' use of technology: The technology acceptance model and expectancy-value theory.* doi:10.31219/osf.io/8q2vk

Rony, H. A., & Awal, S. T. (2019). University teachers' training on online teaching-learning using online platform during COVID-19: A case study. *Bangladesh Education Journal, 18*(2), 57-64. https://www.bafed.net/pdf/edecember2019/6.University_Teachers_Training.pdf

[Downloaded from mail.ijreeonline.com on 2026-11-19]

Roopa, S., & Rani, M. (2012). Questionnaire designing for a survey. *The Journal of Indian Orthodontic Society, 46,* 273-277. doi:10.5005/jp-journals-10021-1104

Semenog, O., & Shamunova, K. (2020). The training of future primary school teachers for pedagogical internship during Covid-19: Challenges and possible solutions. *Polonia University Scientific Journal, 38*(1-2), 196-203. doi:10.23856/3866

Sepulveda-Escobar, P., & Morrison, A. (2020). Online teaching placement during the COVID-19 pandemic in Chile: Challenges and opportunities. *European Journal of Teacher Education, 43*(4), 587-607. doi:10.1080/02619768.2020.1820981

Soiferman, L. K. (2010). *Compare and contrast inductive and deductive research approaches.* 1-23. https://files.eric.ed.gov/fulltext/ED542066.pdf

Spoel, I. V., Noroozi, O., Schuurink, E., & Ginkel, S. V. (2020). Teachers' online teaching expectations and experiences during the Covid-19 pandemic in the Netherlands. *European Journal of Teacher Education, 43*(4), 623-638. doi:10.1080/02619768.2020.1821185

Theelen, H., Willems, M., van den Beemt, A., Conijn, R., & den Park, P. (2020). Virtual internships in blended environments to prepare preservice teachers for the professional teaching context. *British Journal of Educational Technology, 51*(1), 194-210. doi:10.1111/bjet.12760

Toquero, C. M., & Talidong, K. J. (2020). Webinar technology: Developing teacher training programs for emergency remote teaching amid COVID-19. *Interdisciplinary Journal of Virtual Learning in Medical Sciences, 11*(3), 2-5. doi:10.30476/jvlms.2020.86889.1044

Turner, D. W. (2010). Qualitative interview design: A practical guide for novice investigators. *The Qualitative Report, 15*(3), 754-760. doi:10.46743/2160-3715/2010.1178

Waters, S., & Russell, W. B. (2016). Virtually ready? Pre-service teachers' perceptions of a virtual internship experience. *Research in Social Sciences and Technology, 1*(1), 1-23. doi:10.46303/ressat.01.01.1

[Downloaded from mail.ijreeonline.com on 2026-11-19]