

Pre-service English Teachers' Lived Experiences in Implementing Technology for Teaching Practice

Henny Soepriyanti¹, Untung Waluyo¹, Edy Syahrial¹, Rizki Kurniawan Hoesni¹

¹ Faculty of Education, University of Mataram, Indonesia

Email hennysoepriyanti@unram.ac.id

Abstract. Since the emergence of the Covid 19 pandemic, the teaching practice conducted by the preservice English teachers in schools has experienced various changes. The Policy of Learning from Home (LFH) has urged these pre-service teachers to adopt and adapt the online learning technology that they never learn before. This situation has unduly created new challenges for those teachers. The present study aims to (a) to evaluate the perceived adequacy of the pre-service teachers' technological knowledge and skills for teaching practices; (b) reveal their abilities to adapt to the demands of employing technology for the teaching practices; and (c) to bring to light challenges they faced in utilizing technology for teaching practice. The research employed a descriptive qualitative approach with a multiple case study design. The study involved 16 pre-service teachers doing teaching practices in the rural and urban schools. The results of the study show that the pre-service teachers participating in the two research sites had considerably divergent knowledge and skills in technology for learning. It was revealed from the study that students' technological knowledge and skills was relatively low. Due to the absence of technological skills from their previous training and teaching practice preparation, on the average participants experienced difficulties in integrating technological knowledge and skills into their teaching-learning activities. The study concludes that professional development in the use of technology needs to be tailored into pre-service teachers' preparation program prior to sending them to embark on teaching practices.

Keywords. Technology for learning, teaching practice, pre-service teachers

1. Background of the Study

Since the emergence of the Covid-19 pandemic, the so-called Teaching Practicum in schools for EFL students has been faced with various changes in learning modes that they have never experienced before. The widespread of the Covid 19 Pandemic within the period of 2019-2021 made the local authorities of Mataram City and West Lombok Regency of West Nusa Tenggara, Indonesia, implement the national policy of Learning from Home (LFH). Due to such a policy, all schools and colleges were closed down and urged to carry out the learning activities from home. The pre-service teachers were thus unable to carry out conventional teaching and learning activities anymore. As a result, they were to adopt the online technology for teaching English in schools. With the coming of such a new learning management system, these teachers were forced to adapt to the digital platforms in order that they were able to carry out the virtual teaching and learning activities optimally. Eventually, the new digital



learning platforms such as Moodle, Google Classroom, Easy-class, and the like were rapidly transforming the conventional classrooms into virtual classrooms.

When the present study was carried out in 2021, the above LFH policy had been implemented for more than two years. English language learning through online and/or blended learning modes became the requirement for running classes in schools and colleges. However, thus far there was little information about the efforts made by the local teacher training colleges to change the approaches to pre-service teachers' teaching practice. Indeed, prior to doing teaching practice, these teachers took part in virtual lectures. However, they acted more as the technology users rather than developers of online learning products. This condition certainly puzzled these students when they were transferred to schools to carry out teaching practices.

The aforementioned puzzle unquestionably calls for pre-service teachers to adopt new approaches to teaching and learning. The need for creating technology-based learning materials apparently becomes unavoidably in this paradigm shift of learning. In this connection, researchers in the field of educational technology have discovered that the introduction of digital technology for the classroom poses new difficulties for both users and service providers. These difficulties include the issue of teacher digital competence [1] the efficacy of using digital technology [2], the lack of resources in schools [3], and user attitudes and acceptance of the technology itself.

The abovementioned theoretical postulates insinuate that online technology for LFH activities has certainly brought its own challenges for pre-service teachers doing teaching practices at schools. They, for example, face challenges to design teaching and learning activities that involve the use of technology in virtual classes. Despite the lack of preparation to implement the LFH policy, these pre-service teachers were forced to develop learning activities that incorporated technology into the delivery of English subject. They were overwhelmingly perplexed by this situation. In the one hand, they were expected to be proficient in using technology in the teaching practices. On the other hand, they did not have sufficient prior knowledge in technology-based teaching tasks. As a result of this, they were undoubtedly to make some adjustments in the teaching learning activities in schools in order to successfully meet the requirement of teaching practices.

[4] found that prospective teachers frequently encounter challenges as users and/or developers of technology-based learning tools because of their lack of experience, knowledge, and skills. This issue even becomes more crucial when pre-service teachers do not have access to professional development training in digital technology for learning. They are confronted with a paradoxical situation. In the one hand their educational background does not prepare them to employ technology for teaching practices. In the other hand, they are forced to deal with the use of technology in their educational practices. This situation makes the practice of using digital technology for learning just becomes a pro-forma administrative requirement.

According to [5], pre-service teachers are required to have technological knowledge in order to adapt to changes in the new teaching and learning paradigm. Technological knowledge is described as teachers' knowledge and expertise in incorporating technology into classroom activities in both traditional and online classes [6]. Utilizing technology in the context of virtual teaching and learning necessitates intricate interactions between pedagogy, technology, and language content [7]. Therefore, before beginning to do teaching practices, pre-service teachers are required to master technological knowledge and skills.

[8] posit that a person's level of technological mastery is significantly influenced by a variety of variables, such as the financial situation, cultural background, and institutional policies. [9], [10] and [11] have provided evidence for this. Knowledge and skills in



technology is crucial to scaffold pre-service teachers to develop technology-based instructional activities. Given its crucial significance, it is therefore vital to introduce learning technology into the pre-service teachers' education curriculum so that they can stay current with knowledge and teaching techniques that are pertinent to the needs of today's students. Thus, when confronted with unprecedented situations, pre-service teachers can adjust accordingly to technological developments.

To incorporate the knowledge of technology into the classroom learning process, however, can be exhausting, especially for teachers who are unfamiliar with digital technologies. [12] observed that producing learning content and teaching techniques that are integrated into digital technology modes can be challenging for inexperienced pre-service teachers. These prospective teachers typically display a lack of competence or confidence when confronted with teaching activities including the use of online technology because they are faced with the intricacies of education in schools that are different from the learning experiences they gain in colleges.

Because of its very important role, technology for education must be taught as skills and knowledge needed by pre-service teachers prior to doing the field teaching practice [13]. By mastering technological knowledge, they can create variations of teaching and learning, encourage students' interest in accessing digital information, communicate virtually with students and improve collaborative teamwork with other pre-service teachers. All these advantages can be obtained by pre-service teachers only when they are well-equipped with the required technological skills. In his study of the techno-pedagogical competence of teacher candidates, [14] reports that teachers who have a higher level of technological competence have proven to be successful in establishing a more effective learning environment.

Related to the above findings, [15] report modeling the application of technology for learning is the main driver that can increase the confidence and mastery of pre-service teachers in applying the online technology in schools. The study finds that providing concrete examples of the application of technology for learning can increase pre-service teachers' confidence in designing learning tools for teaching practice. Through modeling activities, the pre-service teachers can plan, implement, and assess educational processes based on the technology and pedagogy and therefore they can increase the effectiveness of their teaching practices. Thus, gaining adequate knowledge of technology for education is a must for pre-service teachers before they carry out the field teaching practice.

A number of publications of cross-disciplinary research related to the use of technology for teaching, as reported by [16], [17], [18], [19] and [20] have revealed various positive impacts of using technology on the increasing ability of pre-service teachers in designing various learning activities through digital technology. The lessons learned from these publications are that the provision of knowledge and practice of technology for learning can (1) update the knowledge and skills of pre-service teachers in responding to the challenges of curriculum change, (2) increase their confidence in using technology for learning practices, (3) change their perceptions of the role of technology in learning practices and (4) improve their teaching skills through the use of learning technology.

[10] found that in general, novice teachers experienced similar problems related to the effective use of technology for learning. Even though they get training in technology during their study in colleges, in general their expertise is still not well developed yet. This problem often occurs because the development of teaching learning technology continues to grow rapidly while the professional development designed to update teachers' technological skills are not congruent with such a development. They therefore suggest that in order to increase the technological knowledge and skills of novice teachers, professional development in the



use of technology for learning was imperative to do. This is meant to improve their understanding, beliefs, attitudes, and skills in integrating technology into their teaching practices.

A research study related to the pre-service teachers' technological knowledge was reported by [20]. The results of their study indicate that the key factor affecting pre-service teachers' success in the teaching practice was due to their ability to organize learning through the integration of technology into the learning process. [21] and [9] reported similar results of pre-service teachers' success in implementing technology for classroom use. These researchers claim that, through self-assessment, the respondents expressed a positive view of their ability to apply technology in the classroom. All these previous studies provide evidence that the use of technology for education can increase pre-service teachers' confidence in teaching. The literature review has also come up with problems that have not yet been adequately addressed. In order to create learning activities that integrate the teaching of English language with technological knowledge into a single learning package, they must be equipped with adequate technological knowledge. When the current study was carried out, it was not yet clear to what extent these pre-service teachers were adept at integrating technology into their online learning and preparation for learning. With this consideration, the present research aims to answer the following question: *How do pre-service teachers perceive their ability to adapt to the demands of employing technology for the teaching practices in schools?*

2. Research Method

This study was conducted in high schools in West Nusa Tenggara, Indonesia, where pre-service teachers engaged in the teaching practice. For the purpose, the researchers employed a qualitative research approach with a multiple case study design. This design was used to reveal challenging experiences and/or difficulties faced by the research participants while doing teaching practices. Through this qualitative research design, the researchers wanted to develop an in-depth analytical description of the problems faced by pre-service teachers in utilizing technology in the teaching practice of English.

As the purpose of the study was to delve further into participants' perceptions of technological mastery, the use of a purposeful sampling technique was deemed appropriate. To gather the required data, the researchers interviewed 8 pre-service teachers doing the teaching practice, four from the urban schools and four from rural schools. Before doing the data collection, all research requirements and a consent form from the research subjects were prepared and given to the research participants in accordance with the procedure for research ethics. With the permission of the informants, the researcher recorded the interviews. To maintain the privacy of the participants, the researchers concealed their identity of the participants. Their names were coded in a simple way. For example, the code MST1 means male pre-service teacher-1, whereas FST1 means female pre-service teacher 1. To ease the classification of the data, the researcher used numbers 1 to number 4 for pre-service teachers doing practicum in the urban schools while numbers 5 to number 8 for pre-service teachers in the rural schools.

The research was started by contacting pre-service teachers enrolled in the two research sites aforementioned. After gathering the adequate information about the participants of the study, the researchers made appointments with them to conduct in-depth interviews. The researchers employed semi-structured interviews for the purpose, with the duration between 30 and 40 minutes. The researchers felt freer to delve into the perspectives of the interviewees by employing this type of interviews. Prior to the interviews, each of the



participants was given research consent and a typical interview guide for this particular interview. The researchers specifically guaranteed the confidentiality of the participants' responses from the interview.

In addition, the researchers conducted observational activities of pre-service teachers' way of implementing technology in the classroom. The objective of the observation was to verify that the information provided by participants was congruent with their interview responses. By doing observations, the researchers got a general understanding of how research participants used technology for teaching English in schools. The mastery level of their technological knowledge was recorded by the researchers using this observation. For this reason, the researcher requested permission to participants to observe the teaching and learning process. Each document pertaining to the technological evidence was kept in the research document database. The researcher also took field notes that were pertinent to the data gathered during the observation phase. Miles and Huberman (2005) recommended that the data acquired from diverse sources be consolidated and sorted out before being analyzed and evaluated. It was expected that the result of the analysis would shed light on the challenges and/or difficulties that participants faced in applying technological knowledge and skills in schools.

The data reduction was further carried out to sort out the irrelevant data and to reduce the complexity of data. After the data reduction process was complete, the following activity was to display a collection of data that had been neatly organized after going through the data reduction process. Through this data display, the researchers were able to generate understanding of the overall picture of the phenomenon investigated. This was followed by the data analysis.

To carry out the analysis, the researchers first checked all the data. The purpose was to look at each other's data links. The use of secondary data checking in this analysis was intended to strengthen the trustworthiness of the data. Further, the researcher coded the data. The coding for the data sources was done by observing the parts of the text and context. Data from each source were classified based on the similarity of the topics. This was followed labeling the data using codes to ease categorization. The data with relevant categories were pulled together for further coding while the irrelevant data were set aside for sorting out. Then, the data that had relevance to the purpose of this study were grouped into sub-themes until they were saturated. In this way, the categorization of the data allowed the researchers to get a brief overview of the main information that emerges from all the data.

3. Results and Discussion

3.1. Results

As regards the pre-service teachers' perceived ability to adapt to the demand of the mastery of technology for learning, most participants considered that they did not have sufficient background knowledge in online technology when they started to carry out teaching practices. They expressed their apprehension when their supervising teachers asked them to use online learning materials for the teaching activities. They felt *anxious, worried, tense, and unconfident* because prior to doing teaching practice they were never facilitated by their college to gain technological knowledge and skills for learning. MST2 explained, "*I am not very knowledgeable about technology for learning because in the college there are no such courses.*" He further explained that as he did not have sufficient technological knowledge, he preferred to use "*less consuming way*" to deliver learning materials, i.e. using WhatsApp. "*...the most important reason is how I ensure that students keep on learning.*" He further argued, "*Learning through WhatsApp is more doable for both teachers and students than*

through other media or online applications." Almost all participants in the rural and urban schools concurred. The following comments from FST7 may represent the voices of other pre-service teachers, *"I don't use online technology because I am not familiar with it. Besides, it takes much time to prepare"*

In the same vein, MST4 told that he frequently felt nervous using online learning management system because *"I have little knowledge of using Google platform ... Oftentimes I was confused... don't know what to do"*. FST3 added, *"Perhaps, I need to have extra time to learn to operate it"* Similar acknowledgment was also conveyed by four female pre-service teachers. For example, FST1 declared, *"I am worried about my skills in using a computer for teaching. I'm always worried my class will go wrong as I do not have enough knowledge about it"* FST5 stated that she experienced difficulty to adjust to online classes. She explained that she was not confident to interact with her students in an online class because *"my teaching knowledge about online class is weak"*. Out of all the quotes above, FST7's succinct comment may represent the whole group of participants' opinions, *"on the average our knowledge in computer-technology is still weak"*.

Further, the majority of the participants said that they lacked technological knowledge for teaching because they were never trained to use it in the college. MST6 commented, *"Actually we can be better prepared to use technology for learning if the college train us before. Almost all pedagogical courses we took before pandemic time were delivered traditionally. We never learned how to use technology for learning"* In the same way, FST5 explained that she never learnt how to use technology for teaching as most subjects offered in the college were still delivered in a conventional way. She said, *"Whether we are ready or not, we are forced to teach using online technology because that is the school policy. I personally admit that there are some aspects of technological pedagogy that I do not master yet"* In a short comment, MS5 said that he was worried about implementing teaching practice using online platform because of *"his difficulty in choosing teaching methods"* and *"inadequate technological skills"* The majority of the participants agreed that they needed technological knowledge and skills that supported their teaching practices in the schools.

With the absence of technological knowledge and skills for teaching, the virtual teaching learning activities were run as the condition permitted. Almost all participants admitted this. They therefore expressed that they needed technological knowledge and skills that could facilitate their teaching practices. They wanted to be able to develop and arrange English teaching materials that were handy for online classes. They hoped not only to acquire technological knowledge but also to be trained to apply it for pedagogical purposes. By integrating the knowledge and skills into the internet learning platform, they would be able to adjust to the demand of the current teaching practices. Most of the informants explained that they had not been able to use sophisticated online learning applications because they were not used to it. They commented that there were sharp differences between theories they learnt in the college and the practices they experienced in schools. FST3 said, *"What I found at school was different from what we got on campus."* She gave an example. *"In schools, we had to learn how to manage blended classes while on campus we are never taught about it"*. Almost all participants expressed their doubts about their abilities to apply online or blended learning in their teaching sites. *"This difference in theory and practice makes us feel uncertain when managing classes"*, said MST2. For this reason, they considered that they needed to get proper training in using technological tools and teaching strategies that could help them develop effective online or blended learning models. MST08 said, *"Perhaps what we need is how to manage online classroom"*

All participants also perceived that the absence of courses in their college became their obstacle to run effective online/blended learning. MT2, for example, said, *"I am not very knowledgeable about technology for learning because there are no specific courses about them."* Therefore, they suggested that their college made a thorough preparation long before they deployed the teaching practices. In this relation, FST3 stated, *"we need video editing skills, learning strategies in using technology, online classroom management, briefing on making lesson plans and others because there is no such training on campus"* In the same way, MST6 said *"we need to learn more technology stuff to put into our classroom"* For the same reason, FMT7 suggested, *"the briefing from the office of teaching practice should cater our current needs"* All the aforementioned findings show that pre-service teachers experienced hurdles to adjust to the demand of online technology use in the classroom because of the absence of prior technological knowledge and skills from their previous training in the college.

It was noted that results of the observations and document checks on the pre-service teachers' teaching practices were in line with data from the interviews. Out of 8 pre-service teachers observed, only two of female teachers were able to adapt to the demand of utilizing computer and internet technology for classroom learning. FST3 and FST7 used Google Classroom and Google Meet for interaction with students at home. FST3 posted reading assignment for students a week before the meeting. Similarly, FST7 scanned parts of students' books and posted them in the Google classroom. The researcher found that the two students practicing in these two schools were exemplary good models of online technology users. They had an adequate level of knowledge and skills in the use of technology for online learning. Despite their ability, however, these two participants admitted that they still lacked knowledge in maximizing online learning platforms. They used Google Meet just to transfer the offline teacher-centred learning model into the online one. The rest of the participants were inclined to use WhatsApp to send assignments and developed no interaction. These findings revealed that the majority of pre-service teachers lacked technological skills necessary to operate devices for online/ blended learning activities. Many of them still got difficulty to create and use various online learning applications as they had little experiences to employ internet devices for teaching.

The results of observations of teaching and learning activities in the classrooms of a number of participants in this study yielded similar results to what the students responded in the interviews. A number of pre-service teachers who were observed seemed to have difficulty in handling the online learning process in class. As the researchers noted, the observations show that all teaching and learning activities planned in the lesson plan were not fully implemented. Of the 8 students observed, only two of them carried out carried out teaching and learning activities virtually according to the lesson plans. These two pre-service teachers were able to show how they used computer and internet technology for classroom learning. The results of observations in other classes showed that most of the pre-service teachers carried out conventional teaching and learning activities through teacher-centred learning mode. Observations also show that pre-service practitioners had low self-confidence in developing interactive teaching strategies and weak pedagogical content knowledge. These two aspects were exacerbated by the lack of prior knowledge in the use of technology. This explains why these pre-service teachers cannot apply technological knowledge in the classroom.

With regard to document checks, in general the documents collected by researchers show completeness as presented in the interviews with the participants. From the examination of



documents in class, it was found that generally students had complete lesson plans, teaching materials, and learning media. However, when confirmed about the authenticity of the document they said they had never made the preparation themselves. A number of reasons were given by the participants. For example, MST6 said, *"We were only told to use the lesson plan provided by the teacher supervisor. However, I'm still confused about the implementation of the teaching method suggested. So I'm just fumbling"* A number of participants expressed the same views. They were aware of their own shortcomings in pedagogy, but as MST2 says, *"we don't know how to solve the teaching problems we face in the classroom"*

The difficulties abovementioned caused students unable to integrate technological knowledge into the development of learning tools. All participants considered that they wanted to learn how to create YouTube, Google Classroom, video editing, and so forth. These participants viewed that acquiring technological knowledge and skills before implementing teaching practice was imperative so that they could adapt to the demands of online-based and blended learning in schools. In this regard, MST8 suggested that pre-service teachers needed *"simple"* and *"easy"* online learning devices that could be used to cater their needs as *"not all students know how to manage technology for teaching virtually"* According to, MST4, pre-service teachers *"need knowledge of how to integrate the content of English subject into online technology"* so that they could keep abreast with the current teaching practices in the school. In this regard, FST3 expressed her apprehension as follows: *"I still don't really understand what it is like to teach effective online classes. I still haven't been able to select and develop teaching materials for online learning"* Due to these limitations, most participants could not develop varied and motivating virtual learning materials for their classes.

Discussions

The results of the data analysis obtained from the study indicate that students doing teaching practices in two sites have inadequate technological knowledge and competencies. The majority of respondents viewed themselves unable to integrate learning tools into online learning platforms such as Google Classroom because they were not prepared to use online technology-based learning tools. They considered that their failure to implement online technology in the teaching practice was attributed to the absence of online technology training in the college. The main finding of this study implies that the lack of technological knowledge among preservice teacher appears due to the absence of pedagogical and technological courses in the subjects taught in the college. These courses no more accommodate students' needs to practice teaching in schools. The results of this study are in line with the research findings reported by [12] and [10] who explain that in-service teachers have difficulty integrating content, pedagogy into digital technology modes because of the gap between theoretical knowledge acquired on campus and practice in school. The results of the study also revealed that the inadequate pedagogical and technological knowledge made participants grapple to adjust to the demand of online classes. Consequently, it was obvious from the findings that most participants were unable to integrate the content of English subject into virtual tools in schools.

The findings of the study support the theoretical postulates posited by [13] discussed previously. The study reveals that college culture and institutional policies have played a significant influence in shaping pre-service teachers' perceptions concerning the use of technology for teaching activities. The absence of technology-based courses in the college is evidence for the strong influence of college culture and institutional policies. The study also



yields the pertinent needs expressed by pre-service teachers. Participants of the study suggest that their college provide prospective students with professional training on the use of online technology prior to embarking the teaching practices. Different from the previous research studies reported by [21] and [9], the present study reveals that the key failing factor that affect the teaching performance of pre-service teachers is found in students' inability to integrate technology into the learning process. This finding reinforces the view expressed by [8], namely, technological knowledge is necessary for prospective teachers and must therefore be taught in colleges.

Conclusion

The results of this study indicate that prospective teachers in the two research areas have problems in integrating technology into their teaching learning activities. Generally, participants have difficulty to adapt use of online technology in schools because they do not have prior knowledge about how to integrate technology into the learning activities. Participants from two different regions relatively share similar problems with utilizing online technology for learning. The study reveals that the core problem that hinders pre-service students' ability to utilize technology for online learning is due to the absence of technology-based courses in the college as most pedagogical subjects are taught in a conventional way. The participants of this study suggest that the college provide them with good knowledge of technology for learning so that they can keep abreast with the demands of the new teaching learning trends. Thus, the college can bridge the gap between teaching theory taught in campus and the teaching practice implemented in schools.

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