

Technology Based Self-Reflection As A Tool For Enhancing Professional Development: A Pre-Service English Teacher Perception

by Ellya Roza

Submission date: 01-Jul-2023 07:35AM (UTC+0700)

Submission ID: 2124961171

File name: Technology_Based_Self-Reflection_As_A_Tool_For_Enhancing.pdf (341.93K)

Word count: 5852

Character count: 33784

Technology Based Self-Reflection As A Tool For Enhancing Professional Development: A Pre-Service English Teacher Perception

Murny¹, Suci Ruliany^{2*}, Martius³, Ellya Roza⁴, Nurhasnawati⁵

^{1,3,4,5}Universitas islam sultan syarif kasim Riau

²Universitas Pendidikan Indonesia

murny.mpd@uin-suska.ac.id, suciruliany@outlook.com, martius@uin-suska.ac.id,
ellyaroza@uin-suska.ac.id, nurhasnawati@uin-suska.ac.id

ABSTRACT

Self-reflection is one way that can apply to the pre-service teachers to produce an excellent teaching-learning process. This study aims to investigate the pre-service teacher's perception of self-reflection by using technology and what efforts they made to provide self-reflection by using technology. The design of this study is descriptive quantitative and qualitative research. This research involved twenty pre-service English teachers in Riau Province. The data was collected through e-questionnaires and individual interviews, which obtained pre-service teacher perception toward self-reflection by using technology and the efforts that integrated it with technology. After the data analysed, it found that pre-service English teacher has good perception toward self-reflection but still need improvement. The study underscores the importance of integrating technology into professional development initiatives and highlights the benefits of self-reflection in promoting teacher growth and effectiveness. These findings have implications for teacher education programs and can inform the design and implementation of professional development strategies to better support pre-service English teachers in their journey towards becoming proficient educators.

Keywords: *Self-Reflection, Pre-Service English Teacher, Professional Development*

A. INTRODUCTION

Being a professional teacher is required in this era (Avidov-Ungar & Forkosh-Baruch, 2018; Laura, 2016). The difficulties that teachers face in this globalization is getting challenges to make teachers should not only focus on transferring knowledge but also have a role as the agent of change (Chakraborty, Chakraborty, Dahiya, & Timajo, 2018). Teachers not only have to be masters in teaching material, yet also master other components to develop teaching skills (Bourn, 2016). To fulfill this purpose, the teacher must never stop learning. Teachers encounter various challenges in the classroom, including evaluating teaching techniques, ensuring student comfort, improving classroom interaction, assessing student competence, and influencing students' perspectives through their teaching styles and opinions. The teacher needs time to discover these issues; that is why good teachers are lifelong learners.

The process of developing your teaching ability related to teacher's development. It is an activity that needs patience and has to do repeatedly (Istiyono, Kartowagiran, Retnawati, Cahyo Adi Kistoro, & Putranta, 2021). The teacher cannot become a master in teaching by studying it overnight because you need to strive to do a better and better job of teaching. Ramadhan, Sumiharsono, Mardapi, and Prasetyo (2020) defines teacher development as the opportunities to increase educator's creative and reflective capacities in ways that strengthen their capabilities. There are many activities providing teachers to promote teachers to become better in the teaching process. One of them is self-reflection.

By doing self-reflection, pre-service teachers are providing to do self-reflective thinking because they do an inquiry process of what they have taught in the classroom, like watching and investigating the videotaping and writing self-reflective teaching sheet. This study examines how pre-service teachers execute self-reflection on teaching a fundamental skill, which means seeing the perception of self-reflection. Tunç-Pekkan, Ölmez, and Taylan (2022) stated that reflection allows pre-service teachers to make judgments for their teaching tactics and assess them. Besides, reflection defined as a process when the individuals try to reflect on their actions and thoughts after they have taken place (Evans, 2019; Lynch, Kamovich, Longva, & Steinert, 2021).

Moreover, Graves in Poornimavaralakshmi and Shanmugatha (2020) clarifies that reflective is one of the most crucial tools the teacher can use to explore, understand, and redirect their practice. These definitions give the conclusion that reflective activity in

teaching is one way that teachers can use it to improve their teaching development. This activity provides a good thing for the pre-service teacher to measure their readiness and ability in teaching and become one way to guide them to do a review, identify, manage and resolve issues related to the teaching process (Manasia, Ianos, & Chicioareanu, 2019).

Pre-service teachers are students enrolled in a teacher education program and teach in a school to complete their teaching course (Burak, 2019; Mena, Peinado, & Hernández, 2023). In order to provide professional competences, the pre-service teacher needs to be well prepared in the pre-service teacher education program. It aims to develop and facilitate pre-service teachers who will enroll in the teaching profession prompted by the lecturer for pre-service teachers to evaluate their teaching practice. Doing reflective teaching practice, pre-service teachers are required to do self-reflective thinking because they do an inquiry process of what they have taught in the classroom like investigating videotaping and writing self-reflective teaching sheets. The pre-service teachers also assumed that they are part of extensive technology users because they are included in z generation (Habibi, Riady, Samed Al-Adwan, & Awni Albelbisi, 2023; Lazar, Panisoara, & Panisoara, 2020). So that they will be confident in integrating technology in their lessons, especially self-reflection by using technology.

However, in this era, technology can help pre-service English teachers in engaging their abilities. Pre-service teacher is provided with opportunities to practice using technology as a tool for developing teacher's competence in teaching. However, this technology cannot offer any good thing in the teaching process if the teachers do not have a positive attitude toward it. It is related to Asghar (2022) that emphasizes teachers' personal beliefs about the advantages of using technology for language teaching will influence teachers' decisions regarding technology use. Similarly, Milutinović (2022) points out that critical factors affecting the success of using technology into the classroom related to the teachers themselves, such as their perceptions and attitudes. She adds that teachers' perceptions and attitudes toward teaching and technology can be regarded as a facilitating or inhibiting factor, giving them more confidence or a major.

This research delves into the area of reflective practice and aims to explore the perceptions of pre-service English teachers regarding self-reflection facilitated by technology. It seeks to address two key questions: Firstly, what is the perception of pre-service English teachers when it comes to utilizing technology for self-reflection? Secondly, what specific efforts do pre-service teachers make in order to engage in self-reflection through the use of technology?

By examining these aspects, the study aims to contribute to the existing body of knowledge by shedding light on the novel approach of incorporating technology as a tool for enhancing professional development among pre-service English teachers.

B. METHOD

2.1 Desain Research

This study utilized a descriptive qualitative and quantitative approach (Mix method). This approach was chosen to describe the perception of pre-service English teachers regarding the use of technology in self-reflection and the efforts made by pre-service English teachers in engaging in self-reflection. The data were quantitative obtained through the use of e-questionnaires and data were qualitatively obtained through the use of interviews with pre-service EFL teachers who teach English at a Junior High School in Riau.

2.2 Samples

The participants of this research were pre-service English teachers in Riau from one university in Riau who were enrolled in a teaching practice program. Twenty pre-service English teachers taught English at a local school in Riau. The study participants were purposively selected based on their involvement in the teaching practice program at one school in Riau.

2.3 Instruments

In this research, two instruments were employed to gather data. The first instrument utilized was an online e-questionnaire. The decision to employ this instrument was based on its adaptability from Grant (1984). The questionnaire was designed to encompass four distinct parts, with Part 1 examining the learning environment, Part 2 delving into individual factors, Part 3 exploring various activities, and the final part specifically addressing the use of technology in self-reflection. The questionnaire consisted of a total of 30 items, carefully crafted to capture relevant information for the study. By utilizing this adapted questionnaire, the research aimed to collect comprehensive data on pre-service English teachers' perceptions of self-reflection facilitated by technology.

Table 1: The questions about the teacher's perception of self-reflection

No	Statement
The learning environment	
1	establish good eye contact with my class
2	consider the physical comfort of the room
3	Set up the materials before class begin
4	Speak loudly
5	Give a variety of explanations, models, or descriptions
6	Help students from working principles and generalization
7	Give student thinking time
8	Aware the cultural difference
9	Promote the understanding atmosphere and mutual respect
The individual	
10	Aware the student's attention span varies from day to day
11	Begin class with simple activity
12	Let students know about teacher's feeling
13	Treat students with the same respect
14	Make one-cantered activities to give the same opportunities for students
15	Aware students have different ways and style of learning
16	Well-prepared and produced test
17	clear grading system

18	Try new ideas
19	Observe another ESL teacher
The activity	
20	Minimize role in conducting activities
21	Organize the activities
22	Appropriate activity to gear the proficiency level
23	Not too sophisticated content
24	Relevant and meaningful content
Using technology	
25	Use technology when reflecting the teaching process
26	Use the internet network to learn about the effective use of technology in the teaching subject
27	Use the application to reflect the teaching process
28	Use the application to improve instructional practice and maximize student's learning
29	Use the digital tool to enhance the teaching-learning process
30	Discuss with other teachers about our process by using the application to plan a rich learning environment

The second instrument used was interviews. The researchers conducted semi-structured interviews to obtain further in-depth information. The interviews were conducted via telephone and voice notes in the WhatsApp application. The selection of participants was based on purposive sampling, considering factors such as their involvement in the study, possession of

relevant data or information (perception), and willingness to provide comprehensive and quality information related to the research.

2.4 Data Collections

Data were collected through the e-questionnaire and interviews. The e-questionnaire was self-administered by the participants, while the interviews were conducted by the researchers with the participants. The interviews were recorded and then translated from Indonesian to English. The discussions in the interviews were transcribed and analyzed using content analysis to verify or confirm the findings from the questionnaire. Interpretation was also involved in the data analysis.

2.5 Data analysis

The data obtained from the questionnaire were analyzed using descriptive statistics to examine frequencies and percentages. Additionally, the interview recordings were translated into English and transcribed. Content analysis was employed to analyze the transcriptions and crosscheck the findings from the questionnaire. Interpretation was an integral part of the data analysis process.

C. RESULTS AND DISCUSSION

3.1 Teacher's perception of self-reflection in using technology

The research findings concern the teacher's perception of self-reflection in using technology. In this chapter, the data were analyzed to answer the research questions, as stated in chapter 1. The first question is about the teacher's perception of self-reflection. The questionnaire is about pre-service English teacher's perception of self-reflection and consists of 24 questions, which have been outlined in the previous discussion of the method. This questionnaire is categorized into three types: the learning environment, the individual, and the activity. Based on the calculation above, it was found that the respondents showed good in learning environment categorization. The mean score of the first category was 57% which was classified to a fair degree. The first question talked about establishing **good eye contact with class, not talking over their heads, to the whiteboard, or just one person.** 55% dominantly answer needs improvement, 35% answered good, and only 10% answered excellent.

The second question was about how the teacher considers the physical comfort of the room, such as heat and light, 60% of pre-service English teachers include it in their learning process.

Next, the question is about providing special materials and equipment if needed and set up before the class begins. 60% chose it good, meaning most of them did it in their teaching-learning process. The question with a low score is about teacher's awareness that cultural differences affect the learning situation. In this question, only 15% of pre-service English teachers show high understanding of it and choose excellently, and 45% need improvement.

The second type of question is about the self-reflection of the individual. In this type, almost all of them provide a good score. The mean score of this categorization was 56% and still categorized to a fair degree. 50% need improvement in answering the question about If they are having a bad day and feel it might affect their usual teaching style. They let the students know it so there is no misunderstanding about their feeling for the students. In these questions, 25% convey a degree of good, and the rest of the 25% answer never applies. However, two questions have two balanced answers. The first question is about the test is well-planned and produced. In this question, the percentage of the pre-service teacher who answers well is 50% and the pre-service teacher who explains need improvement also 50%. The second question that provided the balanced answer is that the teacher tries to make their grading system clear to their students so that there are no misunderstandings of expectations. There is ten pre-service teacher answer good and there is also 10 pre-service teacher answer need improvement. Also, the results of the categorization of activity gave a mean score of 63% of the respond responded good on 4 items being observed. However, even most of them provide attention to the activity in the class; some of them still give attention to this activity. The full result analysis, see Appendix 1.

The implications of this research findings highlight the importance of understanding and awareness among pre-service English teachers regarding the practice of self-reflection in using technology. The data analysis revealed areas for potential improvement in various aspects explored, including the learning environment, individual factors, and classroom activities. This suggests the need for the development of training programs that support pre-service teachers in enhancing their self-reflection skills through the use of technology. Additionally, a deeper understanding of how cultural differences affect the learning situation should be taken into consideration. Another significant implication is the importance of providing attention and effective planning for classroom activities to enhance teaching effectiveness. The research findings provide valuable insights for the professional development of pre-service English teachers and lay the foundation for improving their teaching practices in the future.

Also, there are interviews produced by the researchers for support quantitative result. The researchers was asking about the application of self-reflection in the teaching process. Based on

the discussion, some pre-service teachers said they know about self-reflection and have learned how important it is in university. However, the self-reflection activity is still not tied to themselves. They still do not have high self-awareness toward self-reflection. Another answer is they know doing self-reflection at the end of the teaching process is essential, and sometimes they do it unconsciously. It means they do it but they do not know that is part of self-reflection. They are less aware that what they have been doing is an act of self-reflection. They also said that their perception of the students' levels of achievement and motivation has emerged as an important issue affecting their reflectivity. It was a common idea among the study's teachers that thinking about their practice and actions might be necessary only if they had high-achieving and highly motivated students or low-motivated students.

"I think about my practice and try to improve it according to the students' reactions"
–(Participant 2)

"I think about my lessons if there is something unusual happening in my classroom, then I would like to start to think about what happened with my class. If students understand and as long as the class is in good condition, I rarely reflect my teaching"
(Participant 19)

3.2 Teacher's effort doing self-reflection by using technology

Respondents provided different answers to answer question number 2 regarding what effort teachers do of self-reflection by using technology. The questionnaire about teacher efforts for self-reflection by using technology consists of 9 aspects or questions. The mean score was 57%. Based on table 3 shows that the effort that pre-service teacher's do to do self-reflection and integrated with technology. The first question asked whether they use technology when they reflect their teaching process for productivity in their classroom. 50% chose degree good, 30% chose need improvement, 5% choose not applicable, and the rest of them decided excellent. The full result analysis, see Apendix 2.

These findings have important implications for the professional development of teachers, highlighting the need to provide training and support in utilizing technology effectively for self-reflection. By enhancing their understanding and skills in using technology, teachers can further enhance their reflective practices, leading to increased productivity and improved teaching outcomes. It is crucial to address the concerns raised by the respondents who identified the need for improvement, ensuring that appropriate resources and guidance are

available to assist them in integrating technology into their self-reflection processes. Moreover, the results emphasize the importance of recognizing the varying levels of familiarity and comfort with technology among teachers, and tailoring support accordingly. By promoting the integration of technology into self-reflection practices, this research contributes to the ongoing efforts to enhance professional development in the field of education.

Also, data from interviews support those pre-service teachers are quite good and give a positive attitude in this question. But some of them still need improvement to apply and integrate technology with self-reflection activity because they are still unfamiliar with it.

*"Normally I do not use technology for the accomplishment of a self-reflection task. I usually ask the other teacher or review back by myself how is my previous teaching."
(Respondent 3)*

Next, the second question about whether pre-service teacher use internet network to reflect their teaching process and learn about the effective use of technology in teaching their subject, 55% of pre-service teacher choose good, 25 of them did it but need improvement, and 10% of them choose excellently and not applicable. Questions number 3 asking about whether teachers are using technology to access and use technology resources (website, blog, Wikipedia, youtube) to gather information and develop their teaching in classrooms. The finding shows that 15% of pre-service teachers made this effort, 55% chose good, 25% of them decided need improvement in using it and 5% said they are never using technology to access and gather information and develop the teaching process. Based on the interview, the pre-service teacher said that they often find things related to teaching and find new knowledge to improve the teaching process by using the website and others.

"If there is something I don't know, I usually googling and find out the answer on the internet" (Respondent 11)

"When I want to find the new strategies or something else related to teaching, I always find the answer on the internet. Sometimes I use the youtube website and find about video teaching." (Respondent 2)

From the four questions related to using application (Google form, Microsoft word, spreadsheet, teaching applications) to do self-reflection activity, 45% of responds mentioned that they make this effort and choose good. 20% chose need improvement, the other 20% chose not applicable and the rest of them, 15% gave high score which chose excellently. Referring question number 5 about using LinkedIn, academia Edu, google scholar, techub, and Edutopia to improve instructional practice and maximize student learning, 40% of pre-service teachers

acknowledged that they do it by need improvement, and 25 of them chose good. Only 15% of them decided excellent; on the contrary, the percentage of pre-service teacher who never used it was 30%. Referring to the six questions about the use of digital tools (videos, voice recorders) to enhance their teaching process in classrooms, 55% of pre-service teacher admitted that they use digital tools to reflection, 25% of them choose need improvement, 15 of them pick excellent and only 5% conveyed they never implemented it to their reflective teaching process. The interview also supports it. The respondent said that recording their own teaching process is one of the best ways to see which teaching component they are still lacking. And another one stated that using digital tools (e.g., voice recording) is shameless. It is showed how they still have low consideration doing self-reflection.

"I often watch my own videos at the end of the meeting, not in all of the conditions, but I often asked my students to help me record my teaching videos. It helps me a lot to see what's wrong with my teaching and how I try to overcome them" (Respondent 2)

"Sometimes, I asked students to make voice recordings and give some feedback to me. I loved it when I heard their voices. Sometimes they give me some correction, sometimes are not." (Respondent 15)

"Recording was just embarrassing. I couldn't even record my voice" (Respondent 7)

The last question was whether teachers discuss the teaching process with other teachers using technology (email, Whatsapp, ext) to plan a rich learning environment and experience. 30% chose good, 25% chose need improvement, and the other 25% stated they never use it and only 20% of respondents admitted they do it regularly and chose excellent. Referring to the interview result, the pre-service teacher sometimes communicates with other pre-service teacher and their guru pamong by using technology like WhatsApp, Line, and text and calling them and discussing their teaching-learning process in their class.

"I always discuss my teaching practice in school with my guru pamong. If we cannot discuss it at school, we usually discuss it via chat and text message. Mostly, I discuss my problem in class when I'm teaching the students. I also chat with my other pre-service teachers to share my feeling and opinion about teaching." (Respondent 2)

The first thing to be discussed is about teacher's perception of self-reflection. Based on the researcher's questionnaire and interview, the results show that pre-service teacher knows about self-reflection activity. They know it is an activity that teachers do to increase and develop teacher's skills to be better in the subject they teach, and in this case, English subjects. It is supported by Farrell (2020) suggested that reflective practice has the meaning of being able to

look at our own professional behavior and training to improve and develop. This development and improvement involve different areas in our profession, such as our skills, knowledge, attitudes and awareness that we change through reflective teaching.

However, the result also shows that some of the pre-service teachers have a more general problem with the activity of reflection. Some of them perceive that reflection was often seen as a supplementary activity, an additional activity, rather than an integral part of the learning process. Also, the perception of the pre-service English teachers of self-reflection is affected by the students' levels of achievement and motivation. It has emerged as an important issue affecting their reflectivity. It was a common idea among the study's teachers that thinking about their practice and actions might be necessary only if they had high-achieving and motivated students. Most of them stated that they would do self-reflection if something unusual or extraordinary happened in their class. They tended to believe self-reflection was an additional activity for teachers and affected a lot with students' achievement or students' motivation. Other research also reported that teachers' beliefs about learners, curriculum, and numerous other factors directly influence or mediate classroom practice (Hidayat, Fitriah, Mahlil, & Mason, 2023; Mao & Crosthwaite, 2019; Xie & Cai, 2021).

The following discussion is about pre-teacher's effort to self-reflection by using technology. Based on the interview and the questionnaire, the result shows there still progress in using technology in self-reflection. Based on the findings, there are teacher's effort to promote self-reflection activity by using technology: (1) use the internet network to reflect the teaching process and learn about the effective use of technology in teaching subject; (2) use technology to access and use electronic resources (e.g., website, blogs, Wikipedia, YouTube) to gather new information and develop your teaching in the classroom; (3) use application (google form, Microsoft word, spreadsheet; teaching apps) to reflect my teaching process in the classroom; (4) use linkedIn, academia.edu, google scholar, techub, Edutopia to improve instructional practice and maximize student learning; (5) use digital tools (videos, voice recorders) to enhance my teaching process in classrooms; and (6) discuss my teaching process with other teacher using technology (e.g., email, WhatsApp, Twitter, online forum) to plan rich learning environment and experience. From the finding, it can be interpreted that pre-service English teacher's towards self-reflection and using technology as a tool to develop themselves has led them to provide a good teaching. All of them are the efforts that pre-service English teachers do in order to apply self-reflection by using technology.

It is aligned with Sandanayake (2019) said that when a teacher integrates the learning material with other things, such as technology, it can be named blended learning. He stated that applying blended learning to teacher education will improve the quality of teaching preparation and the results of the knowledge itself. However, these findings also indicate pre-service teachers did not apply and did not have high self-awareness to use technology when they do self-reflection. However, some teachers are still reluctant to integrate self-reflection activities using technology. The findings of this study also suggest that we cannot assume that just because their pre-service teachers are extensive users of technology, they will be confident in integrating technology in their lessons, especially self-reflection using technology. As theorized by Xu, Shen, Islam, Shen, and Gu (2021), behavioral intention is a significant determinant in the use of technology, as evidenced by the number of pre-service English teachers still need to improve them to integrate self-reflection activity and technology. Thus, as Xu et al. (2021) suggests, teacher education programs should provide pre-service teachers with access to all the different types of technology that they will encounter in the schools. This will assist in improving their performance in teaching and they will apply it to this kind of activity because they have prior experience and attitudes toward technology. Taken together, the results of this study and previous research Kuru Gönen (2019) support the recommendation that an essential component of pre-service education programs should be providing the required experiences and skills with technology in a classroom setting in order that these future teachers can maximize their students' learning.

All in all, Pre-service English teachers in Riau still need improvement to apply self-reflection by using technology. They have tried their best to carry out the efforts for using self-reflection by using technology and develop professional development regardless of the difficulties and challenges they face in schools. Additionally, collaboration among pre-service teachers, experienced educators, and technology experts can be instrumental in bridging the gap between theory and practice. Establishing mentorship programs or online communities where pre-service teachers can seek guidance, share experiences, and receive feedback on their technology-mediated self-reflection efforts can greatly enhance their learning and growth. By acknowledging the efforts of pre-service English teachers in Riau and providing them with the necessary support and resources, the field of teacher education can empower them to overcome challenges and make meaningful strides in their reflective practices. This, in turn, will contribute to their professional development and ultimately lead to improved English language instruction in the region.

D. CONCLUSION

The research focused on pre-service English teacher perceptions of self-reflection using technology as a tool for enhancing professional development. The findings revealed that pre-service teachers have a good understanding of self-reflection but perceive it as an additional rather than an integral part of the learning process. Their perception of self-reflection is influenced by students' levels of achievement and motivation. The study also highlighted the efforts made by pre-service teachers to integrate technology into their self-reflection practices. These efforts included using the internet, accessing electronic resources, utilizing applications, employing digital tools, and engaging in discussions with other teachers through technology platforms. However, there is still room for improvement in terms of pre-service teachers' awareness and integration of technology in their self-reflection activities. The findings suggest the need for teacher education programs to provide pre-service teachers with access to various technologies and offer experiences and skills training to enhance their performance in teaching and maximize student learning. Overall, pre-service English teachers in Riau demonstrated a commitment to professional development through self-reflection, despite the challenges they face in schools.

E. ACKNOWLEDGMENT

We extend our heartfelt gratitude to all the pre-service English teachers, faculty members, reviewers, colleagues, and our families for their valuable support and contributions to this research on technology-based self-reflection as a tool for enhancing professional development..

REFERENCES

- Asghar, M. Z. (2022). Emerging Learning Technologies' Acceptance: Influence on Pre-Service Teachers in Pakistan during the COVID-19. *Helsinki Studies in Education, Number 148*.
- Avidov-Ungar, O., & Forkosh-Baruch, A. (2018). Professional identity of teacher educators in the digital era in light of demands of pedagogical innovation. *Teaching and Teacher education, 73*, 183-191.
- Bourn, D. (2016). Teachers as agents of social change. *International Journal of Development Education and Global Learning, 7*(3), 63-77.
- Burak, S. (2019). Self-efficacy of pre-school and primary school pre-service teachers in musical ability and music teaching. *International Journal of Music Education, 37*(2), 257-271.
- Chakraborty, S., Chakraborty, B., Dahiya, V. S., & Timajo, L. (2018). Education as an instrument of social change and enhancing teaching-learning process with the help of technological development. Retrieved December, 23, 2020.
- Evans, J. S. B. (2019). Reflections on reflection: the nature and function of type 2 processes in dual-process theories of reasoning. *Thinking & Reasoning, 25*(4), 383-415.
- Farrell, T. S. (2020). Professional development through reflective practice for English-medium instruction (EMI) teachers. *International Journal of Bilingual Education and Bilingualism, 23*(3), 277-286.
- Grant, C. A. (1984). *Preparing for reflective teaching*: Allyn & Bacon.

- Habibi, A., Riady, Y., Samed Al-Adwan, A., & Awni Albelbisi, N. (2023). Beliefs and knowledge for pre-service teachers' technology integration during teaching practice: an extended theory of planned behavior. *Computers in the Schools, 40*(2), 107-132.
- Hidayat, D. N., Fitriah, F., Mahlil, M., & Mason, J. (2023). Factors impacting English teachers' creativity in teaching English as a foreign language in Indonesia. *Studies in English Language and Education, 10*(1), 155-173.
- Istiyono, E., Kartowagiran, B., Retnawati, H., Cahyo Adi Kistoro, H., & Putranta, H. (2021). Effective Teachers' Personality in Strengthening Character Education. *International Journal of Evaluation and Research in Education, 10*(2), 512-521.
- Kuru Gönen, S. İ. (2019). A qualitative study on a situated experience of technology integration: Reflections from pre-service teachers and students. *Computer Assisted Language Learning, 32*(3), 163-189.
- Laura, S. N. (2016). Being a Teacher in a Digital Era. *International Journal of Social and Educational Innovation (IJSEIro), 3*(5), 73-80.
- Lazar, I., Panisoara, G., & Panisoara, I.-O. (2020). Adoption of Digital Storytelling Tool in Natural Sciences and Technology Education by Pre-Service Teachers Using the Technology Acceptance Model. *Journal of Baltic Science Education, 19*(3), 429-453.
- Lynch, M., Kamovich, U., Longva, K. K., & Steinert, M. (2021). Combining technology and entrepreneurial education through design thinking: Students' reflections on the learning process. *Technological Forecasting and Social Change, 164*, 119689.
- Manasia, L., Ianos, M. G., & Chicioreanu, T. D. (2019). Pre-service teacher preparedness for fostering education for sustainable development: An empirical analysis of central dimensions of teaching readiness. *Sustainability, 12*(1), 166.
- Mao, S. S., & Crosthwaite, P. (2019). Investigating written corrective feedback:(Mis) alignment of teachers' beliefs and practice. *Journal of Second Language Writing, 45*, 46-60.
- Mena, J., Peinado, C., & Hernández, I. (2023). Pre-service Teachers' Self-efficacy Beliefs on Their Role as Teachers During the Practicum. In *Teacher Education as an Ongoing Professional Trajectory: Implications for Policy and Practice* (pp. 71-96): Springer.
- Milutinović, V. (2022). Examining the influence of pre-service teachers' digital native traits on their technology acceptance: A Serbian perspective. *Education and Information Technologies, 27*(5), 6483-6511.
- Ramadhan, S., Sumiharsono, R., Mardapi, D., & Prasetyo, Z. K. (2020). The Quality of Test Instruments Constructed by Teachers in Bima Regency, Indonesia: Document Analysis. *International Journal of Instruction, 13*(2), 507-518.
- Sandanayake, T. C. (2019). Promoting open educational resources-based blended learning. *International Journal of Educational Technology in Higher Education, 16*(1), 1-16.
- Tunç-Pekkan, Z., Ölmez, İ. B., & Taylan, R. D. (2022). An Online Laboratory School research on pre-service mathematics teachers' experiences and mathematics teaching anxiety. *Education and Information Technologies, 1-23*.
- Xie, S., & Cai, J. (2021). Teachers' beliefs about mathematics, learning, teaching, students, and teachers: Perspectives from Chinese high school in-service mathematics teachers. *International Journal of Science and Mathematics Education, 19*, 747-769.
- Xu, X.-l., Shen, W.-q., Islam, A. A., Shen, J.-y., & Gu, X.-q. (2021). Modeling Chinese teachers' behavioral intention to use recording studios in primary schools. *Interactive Learning Environments, 1-18*.

Appendix 1

Table 2: The result of questions about the teacher's perception of self-reflection

No	Statement	Frequency/percentage			
		Excellent	Good	Need improvement	Not applicable
1	establish good eye contact with my class	10%	35%	55%	-
2	consider the physical comfort of the room	-	60%	35%	5%
3	Set up the materials before class begin	15%	65%	15%	5%
4	Speak loudly	35%	30%	35%	-
5	Give a variety of explanations, models or descriptions	15%	35%	45%	5%
6	Help students from working principles and generalization	10%	60%	30%	-
7	Give student thinking time	5%	60%	30%	5%
8	Aware the cultural difference	-	65%	25%	10%
9	Promote the understanding atmosphere and mutual respect	5%	65%	30%	-
10	Aware the student's attention span varies from day to day	10%	60%	30%	-
11	Begin class with simple activity	10%	65%	15%	10%
12	Let students know about teacher's feeling		30%	50%	20%
13	Treat students with the same respect	15%	65%	20%	
14	Make one-centered activities to give the same opportunities for students	5%	55%	30%	10%
15	Aware students have different ways and style of learning		50%	30%	20%
16	Well-prepared and produced test		50%	50%	
17	clear grading system		50%	50%	
18	Try new ideas		65%	35%	
19	Observe other ESL teacher	40%	15%	20%	25%
20	Minimize role in conducting activities		50%	35%	15%
21	Organize the activities		75%	20%	5%
22	Appropriate activity to gear the proficiency level	5%	50%	40%	5%
23	Not too sophisticated content		55%	40%	5%
24	Relevant and meaningful content		85%	10%	5%

Appendix 2

Table 3. Table of teacher's effort in doing self-reflection by using technology

No	Dimension	Frequency/percentage			
		Excellent	Good	Need Improvement	Not Applicable
Using technology					
25	Use technology when reflecting the teaching process	15%	50%	30%	5%
26	Use the internet network to learn about the effective use of technology in the teaching subject	10%	55%	25%	10%
27	Use the application to reflect the teaching process	15%	55%	25%	5%
28	Use the application to improve instructional practice and maximize student's learning	15%	45%	20%	20%
29	Use the digital tool to enhance the teaching-learning process	5%	55%	25%	5%
30	Discuss with other teachers about our process by using the application to plan a rich learning environment	20%	30%	25%	25%

Technology Based Self-Reflection As A Tool For Enhancing Professional Development: A Pre-Service English Teacher Perception

ORIGINALITY REPORT

4%

SIMILARITY INDEX

%

INTERNET SOURCES

%

PUBLICATIONS

4%

STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Hellenic Open University Student Paper	1%
2	Submitted to University of Western Sydney Student Paper	1%
3	Submitted to Kolej Poly-Tech MARA Kuala Lumpur Student Paper	1%
4	Submitted to Cebu Normal University Student Paper	<1%
5	Submitted to Universitas Mataram Student Paper	<1%
6	Submitted to University of Reading Student Paper	<1%
7	Submitted to Universitas Brawijaya Student Paper	<1%

Exclude quotes On

Exclude matches Off

Exclude bibliography On