

BEING TECH-SAVVY IS NOT ENOUGH: PREPARING FUTURE REFLECTIVE EFL PRACTITIONERS FOR TECHNOLOGY INTEGRATION IN TEACHING

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ABSTRACT

As part of a larger research on EFL student teachers' TPACK development, this study explores a preparation program aimed to train EFL student teachers to be technology savvy and at the same time develop their skill on technology integration in teaching English through reflective based activities. It involved 42 EFL student teachers and a teacher educator in 16 weeks learning interaction that focused on technology integration for classroom purpose. A case study design was utilized by obtaining data from observation of online classroom interaction, semi-structured interview with the teacher educator and the student teachers and documents of student teachers' submitted tasks. The data were thematically analysed to reveal types of reflection-based activities employed to develop EFL student teachers' competence in integrating technology in teaching English and their responses toward the activities. The findings reveal that at least four reflection-based activities (lesson design, digital story, reading reflection and reflection during the learning) were employed to foster the student teachers' skill of technology integration in teaching English. Despite some challenges in their enactment, the reflection-based activities were positively responded as indicated by the EFL student teachers' active participation in online classroom interaction and their positive views regarding reflection-based activities.

Keywords: Reflective Practitioner, reflection, technology integration, EFL student teachers

INTRODUCTION

Nowadays, teachers' knowledge is expected to include not only subject matter and instructional knowledge, but it also covers the ability to integrate technology for effective teaching (Ghavifekr & Rosdy, 2015; Asad et al., 2020). Therefore, teachers are now becoming

increasingly involved in the design and enactment of technology integrated teaching and learning (Tai et al., 2015). Despite its high demand, technology integration in teaching is not an easy task. In this case, the teachers must take into account how well technology fits into their lesson objectives (Koh et al., 2015; Drajadi et al., 2018). Considering this, it would be advantageous to have courses on technology use for educational purposes in education for student teachers (Polly et al., 2020). Moreover, a number of research literature reveal that graduate teachers' competence in incorporating technology into their pedagogy is still insufficient, raising concerns about role and effectiveness of education programs for student teachers (Lim et al, 2010; Tondeur et al., 2012). Regarding this, teacher educators are thus advised to explore and develop educational technology courses in the pre-service teacher education (Tondeur et al., 2012; Koh, 2011).

The demand of preparing student teachers for technology integration in teaching has led teacher education programs to facilitate the student teacher with learning experiences that equip them with a skill to effectively incorporate technology in the classroom and to be reflective about their practice (Amador et al, 2015). At that point, the teacher educator needs to prepare the student teachers not only to be a techno savvy, but also to be mindful practitioner of technology use in teaching context by embedding reflection activities in educational technology course.

For EFL student teachers, reflection is helpful to look at and document what they have gained from learning process so they can have deeper understanding of the content and improve specific aspects in their learning process (Chang, 2019). Accordingly, they can recognize their continuous learning and skill development (Helyer, 2015). Reflection also facilitates them to learn from their experience so they can be more aware of their thinking and action as well as help them to retrieve their experience (Larsen, London, and Emke, 2016) and therefore it can contribute to their retention of the learning (Chang, 2019). Furthermore, Chang asserts that reflection enables the participants to evaluate their previous beliefs as well as connect the theories they learnt to their belief which will be beneficial in preparing EFL student teachers to be more mindful technology user in teaching context. That is why Roskos, Vukelich, & Risko (2001) suggest that the educators need to design the instructional activities to help the participants to be reflective by implementing systemized procedures throughout the course (Cavilla, 2017).

In their capacity as future EFL practitioner, the reflection on the role of technology for teaching purpose represents the notion of reflection as reflective practice (Tondeur et al, 2019) which includes reflection on technological applications used in educational settings as well as its potentials and consequences (Kimmons, et al, 2015; Ching et al, 2016). This reflection process can assist the student teachers in understanding the importance of a specific technology to teach a certain content area with a particular instructional strategy (Mouza et al., 2014; Baran et al, 2019). This study looks at how reflection-based activities were carried out to support EFL student teachers' skill development in integrating technology for English teaching and the student teachers' responses toward the activities.

METHODOLOGY

This is a qualitative case study on reflection-based activities to facilitate EFL student teachers with the skill of integrating technology in English class as well as the EFL student teachers' responses toward the activities. It involved 42 EFL student teachers and a teacher educator in 16 classroom meetings with the data obtained from three main sources: interview of both the teacher educator and the EFL pre-service teachers, observation of online interaction in LMS and document analysis.

The interview with the teacher educator was conducted in semi-structured mode to dig types of reflection-based activities and how those activities were enacted while student teachers' interview was conducted to see how the EFL student teachers responded toward the activities. The observation was employed in the form of non-participant observation focusing on online interaction between the teacher educator and the student teachers in the Learning Management System to see how the activities carried out in detail and the student teachers' responses. Furthermore, documents of the EFL student teachers' submitted tasks were collected as supporting data of reflection-based activities implementation.

Subsequently, the data of semi structured interview transcription and observation field note were identified, compared, categorized and thematically analysed to uncover types of reflection-based activities employed in supporting EFL student teachers' ability in integrating technology for English class. Then the result of analysis was supported by the data from the student teachers' submitted tasks. Meanwhile, the data of student teacher interview, observation of online interaction (e.g., the student teachers' comments on the teacher educator's questions on LMS) and submitted tasks (e.g., digital story) were analysed to dig into student teachers' responses toward the reflection-based activities.

FINDINGS AND DISCUSSION

This part presents and discusses the findings of the study which cover two main focuses: elaboration of reflection-based activities to support EFL student teachers' competence in integrating technology for English teaching as well as their responses toward the activities.

Reflective Based Activities to Foster EFL Student Teachers' Skills in Technology Integration

The result of analysis shows that there were at least four reflection-based activities integrated in the class that facilitated the student teachers to develop their skill in integrating technology for English lesson: technology supported lesson design, digital story, reading reflection mapping and reflection during the learning.

1. Technology Supported Lesson Design

After the EFL student teachers were involved in a series of theoretical and practical learning exploration of technologies for educational purpose, they were assigned to design a lesson that involved reflection process on specific technology functionalities, their suitability for teaching, and how they were going to be integrated into the lesson. More specifically, they should choose and integrate specific technology to achieve specific learning objectives. In this case, they

explored and reflected on the features of technology and the technology affordance as well as created some lesson ideas on how the technology would be integrated into the lesson. This technology supported lesson design was also used as a type of formative assessment to look at student teachers' development of their technological pedagogical content knowledge (TPACK). The teacher educator explained that by involving the student teachers in designing technology supported English lesson, the student teachers could have more awareness that being tech-savvy is not enough to be future EFL teachers since they are also required to have the ability to reflect on the suitability of specific technology to achieve learning objectives that involved analytical and evaluative judgement.

2. Digital story

This reflective digital story was assigned to facilitate EFL student teachers' reflection on the concepts and skills they had gained from the learning which was also used as a formative assessment to see how far the student teachers had achieved the learning objectives, in which areas they were strong and in which areas they still needed improvement. At that point, the student teachers should create a cartoon-based story video of their learning journey consisting of their reflection on what concepts they had learnt from the learning process, which part of learning they enjoyed, which part of learning they thought difficult to comprehend, their plan to solve the difficulties, what they thought about the whole process of learning and their expectation of the coming lesson including their need, expectation and hope. In doing this reflective digital storytelling, the student teachers were free to choose their video apps to create and edit their video.

3. Reading Reflection Mapping

It was an activity of independent reflective reading in which the student teachers read some sources shared in learning management system (LMS), summarized and gave reflective responses. In this case, the student teachers mind mapped their reading result, interpretation and reflection in the form of poster presentation. In asynchronous learning activity, the poster was displayed in digital poster while in face-to-face learning the poster was displayed manually on paper. The student teachers then shared their poster of reflective reading mapping to get some responses from their peer.

4. Embedded Reflections during the learning

Embedded Reflection during the learning involved a variety of activities that facilitated the EFL student teachers to think deeply about what they had known before the class, what they learnt from class and what learning aspect they would improve to enrich their technological knowledge and technology integration skill. Since this class was conducted in blended learning, reflection during the asynchronous online learning was carried out in online discussion board with the teacher educator prompted some questions that encouraged the student teachers to do self-reflection such as what they understood, what they had not comprehended and how they would apply the concept in their future teaching. This type of reflection was also carried out through some polling media such as mentimeter with some stimulating reflective questions that merged the student teachers' self-reflection with the concept learnt through the course.

EFL Student Teachers' Responses toward Reflection Based Activities

The findings show that the student teachers embraced the reflection-based activities indicated by their active participation in online classroom interaction and their positive views regarding reflection-based activities.

1. Student Teachers' Embrace of Reflective Based Activities

The observation of online interaction indicated that most of the EFL student teachers showed positive responses toward the reflection-based activities. Despite the variety of the student teachers' performance, all of them actively got involved and participated in the activities. In line with the result of observation, the interview also corroborated the positive responses. In this case, they embraced the activities since they perceived that the activities were meaningful and useful for them. In addition to that, the interviewed student teachers admitted that they enjoyed and embraced the reflection for two aspects: The design of activities and the teacher educator's capacity.

The EFL student teachers considered that the design of reflection-based activities was stimulating, fun and enjoyable.

I love it, there were various reflection activities, it was something new for me, we were active, not only sat and listened. (ST 14, interview)

The excerpt shows that the EFL student teachers enjoyed the reflection activities since they involved various activities that stimulated them to be actively involved in the learning process of developing their technology integration skill. The design also helped them learn and comprehend the concepts and ideas in the learning. This fulfilled the experts' expectation for teacher educators to develop pre-service teachers' education courses that address ICT integration for educational purposes (Koh, 2011; Tondeur et al., 2012). Even the student teachers admitted that what they got was beyond their expectation and this made them aware that being technology savvy is not enough to be a competent future EFL teachers since technology knowledge should be integrated with other aspects such as teaching methods and strategies. In that case, reflection is required to properly choose and integrate technology into lesson design.

Earlier, I expected there would be exploration of technologies but I got more than that, the class also integrated the technology with several areas that I learnt such as lesson planning, Teaching English as a Foreign Language (TEFL), as well as research method, it was integrated. (ST1, interview)

My expectation was that I would learn a lot of technologies and their uses but I got more than that, such as how to choose and integrate the technologies into our lesson plans. (ST12, interview)

The excerpts show that the student teachers embraced their learning experience of developing the skill of technology integration through reflection-based activities. Earlier, they only expected that they would be equipped with technological knowledge but it turns out that they got much more than what they had expected, they were equipped with technology integration

to language instruction (Ghavifekr & Rosdy, 2015; Asad et al., 2020). That way, the student teacher could see that integrating technology into language instruction means integrating technological knowledge into other aspects such as pedagogical knowledge that they specifically learnt in TEFL class and lesson organization they learnt in lesson planning.

The student teachers also perceived that the success of reflection-based activities was supported by the crucial role of the teacher educator as facilitator in the learning process:

The lecturer was a techno person, digital literate. (ST1, Interview)

The lecturer had many techniques of reflection activities. Also, the lecturer was energetic, she excitedly got involved in reflective activities. (ST3, Interview)

ST3 asserted that the lecturer designed the reflection activities in such a way that made the them 'busy and excited' to learn and reflect by utilizing various online technologies and offline interaction (Prestridge, 2010). It was also supported by the fact that the teacher educator immersed herself in reflection activities by actively commenting, stimulating with questions (Chandra, 2015) and giving constructive feedback. As an example, the teacher educator made constructive responses to the student teachers' reflection posted on LMS. In addition to that, the teacher educator was perceived as a digital literate or in ST 1's term 'a techno person' who had advanced technological knowledge and ability to integrate the technologies in designing learning activities that met the student teachers' needs and expectations. It can be said that the teacher educator has become a model of instructor and facilitator with an advanced TPACK competence.

2. Hindrances during the Enactment of Reflection based Activities and Expectation for Future Enactment

Despite the student teachers' positive responses, they also faced some challenges which potentially hindered them to attain optimal skill of technology integration for English teaching.

I didn't find reflection difficult since it looked at what already happened and the lecturer often helped us with template but the difficulty relates to the language use, we need to use full English, sometimes it was challenging. (ST1, interview)

The excerpt shows that the difficulties appeared during reflection activities, not on the content, but more dealt with the student teachers' English language barriers. The requirement of using full English in reflection activities was considered as challenging. It, somehow, shows that the content knowledge (Mishra and Koehler, 2006) of student teachers need to be improved. ST12 added that it was the template that helped them write their reflection. Regarding this, the teacher educator gave a reason that the template was needed to assist the student teachers on what aspects to reflect.

Furthermore, to some student teachers, the challenge of reflection-based activities came from the technical problem and practical technological skill issue during independent tasks outside classroom sessions.

I found digital storytelling challenging; I knew the application but I did not really know its details and how to operate it. I hope in the future there will be more sessions to learn using the application in practice. Some technical issues were also quite bothersome: internet connection, and my device was not compatible. (ST5, interview)

The excerpt shows that the student teacher was not very familiar with the digital application she used for creating digital story. It led to her struggling to finish the project. It was worsened by technical issues which commonly happened in technology implementation in Indonesian education context (Mali, 2015; 2016) such as poor connection and unsupported devices.

Furthermore, ST5 expected that in the future, the class could facilitate the student teachers with more practical workshops on operating more digital applications. Even though some practical activities were conducted in the class, the STs perceived that they needed more. The similar expectation of more practical workshop on digital apps was also expressed by other ST:

Everything worked for me, we learnt a lot from the topics and their reflection. But if I should suggest something, more practical workshops on digital apps will be very useful. (ST1, Interview)

In the reflection note posted on Canvas, most STs also expected the same thing. Regarding this, the teacher educator asserted:

I got a lot of positive comments from them. Beside exploring the features of technology and designing instruction with technology support, they also expected to be able to do practices with various digital apps together in the class. I realized that they expected more practice rather than theories and concepts. For the future class, I will consider their expectation of having more practical technology workshops, possibly low tech as it is applicable in many school settings in Indonesia. (Teacher educator, Interview)

Furthermore, the STs also expected more time allotment to explore and do the reflection-based activities to develop their technology integration skill.

I think we need more time to do the activities, I really enjoyed them but sometimes time constraints limited our exploration. I want more. Hope there will be an addition of class duration. (ST14, Interview)

The expectation of ST 14 of additional time allocation to do the activities in the class also indicated her positive response toward the activities done in the class and her eagerness to learn and explore more.

CONCLUSION

This research explores the enactment of reflection-based activities which include at least four types of activity: lesson design, digital story, reading reflection and reflection during the learning. Despite some challenges, those activities were well responded and perceived by the

student teachers. In this case, future researchers can focus on the depth of student teachers' reflection, models of reflection and analyse the evidence of student teachers' technology integration development in their reflection.

REFERENCES

- Amador, J.M., Kimmons, R., Miller, B.G, Christopher, D. D. (2015). Preparing Preservice Teachers to Become Self-Reflective of Their Technology Integration Practices. In *Handbook of Research on Teacher Education in the Digital Age*, 81-107, DOI: 10.4018/978-1-4666-8403-4.ch004
- Asad, M. M., Hussain, N., Wadho, M., Khand, Z. H., & Churi, P. P. (2020). Integration of e-learning technologies for interactive teaching and learning process: An empirical study on higher education institutes of Pakistan. *Journal of Applied Research in Higher Education*. <https://doi.org/10.1108/JARHE-04-2020-0103>
- Baran, E., Canbazoglu Bilici, S., Albayrak Sari, A., & Tondeur, J. (2019). Investigating the impact of teacher education strategies on preservice teachers' TPACK. *British Journal of Educational Technology*, 50(1), 357-370.
- Chang, B. (2019). Reflection in learning. *Online Learning*, 23(1), 95-110. doi:10.24059/olj.v23i1.1447
- Chandra, R. (2015). Collaborative Learning for Educational Achievement. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 5 (3), 04-07
- Ching, Y. H., Yang, D., Baek, Y., & Baldwin, S. (2016). Enhancing graduate students' reflection in e-portfolios using the TPACK framework. *Australasian Journal of Educational Technology*, 32(5), 108–122.
- Drajati, N. A., Tan, L., Haryati, S., Rochsantiningsih, D., & Zainnuri, H. (2018). Investigating English language teachers in developing TPACK and multimodal literacy. *Indonesian Journal of Applied Linguistics*, 7(3), 575-582. <https://doi.org/10.17509/ijal.v7i3.9806>
- Ghavifekr, S. & Rosdy, W. A. W. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science*, 1(2), 175-191.
- Helyer, R. (2015). Learning through reflection: The critical role of reflection in work-based learning (WBL). *Journal of Work-Applied Management*, 7(1), 15-27, <https://doi.org/10.1108/JWAM-10-2015-00>
- Kimmons, R., Miller, B. G., Amador, J., Desjardins, C. D., & Hall, C. (2015). Technology integration coursework and finding meaning in pre-service teachers' reflective practice. *Educational Technology Research and Development*, 63(6), 809–829.
- Koh, J. H. L., Chai, C. S., Wong, B., & Hong, H.-Y. (2015). Design thinking and 21st-century skills. In J. H. L. Koh, C. S. Chai, B. Wong & H.-Y. Hong (Eds.), *Design thinking for education: Conceptions and applications in teaching and learning* (pp. 33-46). Springer.
- Koh, J. H. L. (2011). Computer skills instruction for pre-service teachers: A comparison of three instructional approaches. *Computers in Human Behavior*, 27(6), 2392-2400. doi: 10.1016/j.chb.2011.08.002
- Larsen, D. P., London, D. A., & Emke, A. R. (2016). Using reflection to influence practice: Student perceptions of daily reflection in clinical education. *Perspectives on Medical Education*, 5(5), 285-291. doi:10.1007/s40037-016-0293-1
- Lim, C.P., Chai, C.S., Churchill, D. (2010). *Leading ICT in Education Practices: A Capacity-Building Toolkit for Teacher Education Institutions in the Asia-Pacific*. Singapore: Microsoft

- Mali, Y.C.G. (2015). Blog as a pedagogical application in learning creative writing. *Widya Dharma*, 48-67
- Mali, Y.C.G. (2016). Integrating Technology in Indonesian EFL Classrooms: Why Not? *Beyond Words 4* (1)
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for integrating technology in teacher knowledge. *Teachers College Record*, 108(6), 1017–1054 <https://www.learntechlib.org/p/99246/>.
- Mouza, C., Karchmer-Klein, R., Nandakumar, R., Ozden, S.Y., & Hu, L. (2014). Investigating the impact of an integrated approach to the development of preservice teachers' technological pedagogical content knowledge (TPACK). *Computers & Education*, 71, 206–221.
- Polly, D., Byker, E. J., Putman, S. M., & Handler, L. K. (2020). Preparing elementary education teacher candidates to teach with technology: The role of modelling. *Journal of Digital Learning in Teacher Education*, 36(4), 250-265. <https://doi.org/10.1080/21532974.2020.1795953>
- Prestridge, S. (2010). ICT professional development for teachers in online forums: Analyzing the role of discussion. *Teaching and Teacher Education*, 26(2), 252–258.
- Roskos, K., Vukelich, C., & Risko, V. (2001). Reflection and learning to teach reading: A critical review of literacy and general teacher education studies. *Journal of Literacy Research*, 33(4), 595-635. doi:10.1080/10862960109548127
- Tai, H., Pan, M., & Lee, B. (2015). Applying Technological Pedagogical and Content Knowledge (TPACK) model to develop an online English writing course for nursing students. *Nurse Education Today*, 35(6), 782–788. <https://doi.org/10.1016/j.nedt.2015.02.016>
- Tondeur, J., van Braak, J., Sang, G., Voogt, J., Fisser, P., & Ottenbreit-Leftwich, A. (2012). Preparing pre-service teachers to integrate technology in education: A synthesis of qualitative evidence. *Computers & Education*, 59(1), 134-144. doi: 10.1016/j.compedu.2011.10.009
- Tondeur, J., Scherer, R., Baran, E., Siddiq, F. (2019). Strategies to prepare pre-service teachers for Technological Pedagogical Content Knowledge (TPACK): A mixed-method study. *Educational Technology Research and Development* · DOI: [10.1007/s11423-019-09692-1](https://doi.org/10.1007/s11423-019-09692-1)