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Innovative Technology Integration in Teaching Practicum: Pre-Service Teachers' Mastery of the TPACK Framework at Universitas Widya Gama Mahakam Samarinda

Akhmad Heriyadi[1], Effendi Limbong[2], Iwan Setiawan[3]

Universitas Widya Gama Mahakam Samarinda, Indonesia [1]
Universitas Mulawarman, Indonesia [2,3]

akhmad.heriyadi@uwgm.ac.id[1], effendilimbong@fkip.unmul.ac.id[2], iwansetiawan@fkip.unmul.ac.id[3]

Correspondence author Email: akhmad.heriyadi@uwgm.ac.id

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Abstract

Consider how Technology has been used in the teaching and learning process. This study aimed to explore PSTs' final practice in practicum integrated into Technology and how they solve the problem if they have it. This research was conducted at Widya Gama Mahakam University. This study focused on PSTs' competence when designing and using Technology in teaching final practice in practicum programs through the TPACK framework. The design of this study was a qualitative study that illustrates the PSTs' competence in integrating Technology in the final practice teaching in the practicum program through TPACK Framework. There were 22 PSTs of seven semesters as the participants. There were three items of instruments. Documents, interviews, Observation, and three PSTs were willing to be interviewees. The study result showed they plan the lesson well before teaching using Technology even though there are slight differences in their performance. The Technology they used, combined with pedagogy and content, varied depending on the state of equipment, facilities, PSTs' abilities, and student levels. PSTs also stated the involvement of supervising teachers was beneficial when they faced difficulties in teaching practice. The Researcher suggested that PSTs design their lesson plan effectively. The teacher preparation program prepares PSTs with technological education skills, and the school provides nondigital or digital technology support, student-centered software, and collaboration media tools.

Keywords: Technology integration; TPACK; PSTs; final practice.

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1. Introduction

In the initial education mechanism, Teacher education programs compete to develop or manage their policy and enhance their Pre-service Teachers (PSTs) competencies for quality graduates. Teacher educators have proposed four approaches to implementing competencies: teaching practice, planning of education institutions' policies and programs, the process of curriculum development, and implementation of competencies (KÖKSAL, 2013). Moreover, in this case, PSTs implement their competencies through teaching practicum. According to Widen, In a dichotomous model of teacher education, 'the university provides the theory, skills, and knowledge about teaching through coursework; the school provides the field setting where such knowledge is applied and practiced (sic)' (Lawson et al., 2015). Cheng argued by carrying out classroom tasks and teaching under the supervision of mentoring teachers; Student teachers can enhance their teaching knowledge and skills and interrogate and reflect on their deeply held values and beliefs, contributing to their cognitive learning and development (Yuan & Lee, 2014).

While much attention has been centered on the studies about teaching practicum and that problem, the primary outcomes of the studies are analyzed based on participants, namely, Teacher Educators, Mentors, and PSTs. The issues that stand out from the perspective of PSTs are a collaboration with mentor teachers, influences on PSTs' beliefs, the relationship between theory and practice, the advantages of teacher educators, shifting perceptions during practicum, technology support, the significance of peer and mentor observation as well as peer coaching, and the overall quality of practicum (Lawson et al., 2015). The effect of technology support in the teaching process truly overviews the result of a study about teaching practicum. Since Technology in education is constantly evolving and will play a significant part in their future classrooms, new teacher-education graduates should be as literate as the "digital natives" they aim to educate. They should also feel confident in embracing this environment (Martin, 2015).

Technology is essential in education, especially in developing countries like Indonesia. The Indonesian government has designed a curriculum which is named curriculum K13. The

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revised edition of K13 for high school at third core competence (KI-3) drafted: "Understanding, applying, analyzing and evaluating factual, conceptual, procedural, and meta-cognitive knowledge based on their curiosity about science, technology, art, culture, and humanities with humanity, nationality, state, and civilization insights regarding the causes of phenomena and events, and applying procedural knowledge in the field of study that is specified according to his talents and interests to solve problems" (Ministerial Regulation of Indonesia No. 36, 2018, p.7).

Consider how Technology has been used in the teaching and learning process. The role of the teacher preparation program is to produce PSTs capable use Technology effectively as a pedagogical tool. Today's teacher preparation programs should give PSTs adequate preparation for changing instructional approaches enhanced by cutting-edge educational technologies. (Martin, 2015). Goktas et al. (2008) said that teacher educators are responsible for introducing Information and Communication Technology (ICT) to prospective teachers in dedicated ICT courses. PSTs gain much-needed skills and develop positive attitudes toward ICT usage during these courses.

One well-known framework combines technological, pedagogical, content, and knowledge is the TPACK framework. Doering stated that the TPACK framework supports PSTs reflection as a utility (Valtonen et al., 2017). Teacher educators and researchers use technological pedagogical content knowledge (TPACK) as a tool of thought in the teacher training program to apply Technology effectively (Chai, 2013, as cited in Baran & Uygun, 2016). Recently, TPACK has been used in either technology-based teaching activities or teacher technology integration evaluation (Valtonen et al., 2019, as cited in Habibi et al., 2020).

PSTs mastery of TPACK is the main critical phase before implementing the TPACK framework at practicum. According to Martin (2015), PSTs unskilled and lack the knowledge and experience to help their students learn integrated Technology in the classroom, even though they realize its importance. The PSTs' mastery of the TPACK framework enables them to relate authentic teaching examples to the TPACK domains with the support and feedback of the

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instructor. Moreover (Day 1993, as cited in Arslan & Ilin, 2018) presents four categories of knowledge that form the basis of teacher education programs. The first is content knowledge, which is the understanding of the subject; the second is pedagogic knowledge, which is the general understanding of teaching derived from practices, strategies, and beliefs; and the third is pedagogical content knowledge (PCK), which is the understanding of how to represent content knowledge, what challenges teachers may face in the classroom, and how to overcome these challenges.

PSTs got the treatment from the first semester until the sixth semester about CK, PK, TK, PCK, TCK, and TPK. Even though it has only occurred in role-playing, such as in the microteaching subjects, they have received instruction and training on imparting content knowledge to their students. Also, in Technology enhancing learning subjects, They practiced using the Technology used in class. The teaching practicum is currently in the practicing phase. Sharma argued that "the more is known about the student teachers' experiences during teaching practice, the greater possibility of reducing the stress and maximizing the benefits of teaching practice for them" (Sharma, 2015, as cited in Arslan & Ilin, 2018, p.16)

This study aimed to reveal and describe how PSTs integrate Technology in teaching English in the final teaching practice at practicum, assuming that they have received training on how to use Technology in the classroom when teaching.

These research questions are being investigated:

1). What is the seventh-semester PSTs' technology competence at the final practice teaching in the teaching practicum program?

2). If any, did they solve the problems they faced while planning and implementing integrated Technology into the final practice teaching in the teaching practicum program?

2. Method

2.1 Research Design, Setting and Context

The Researcher used a qualitative approach with a case study design. According to Gay et al. (2012), case study research is a qualitative approach in which researchers focus on a unit of study known as a bounded system e.g., individual teachers, a classroom, or a school. A case

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study focuses on a single unit to produce an in-depth description that is rich, and holistic description Ary et al. (2010) cited in Limbong, (2017). This research explore PSTs' final practice in practicum integrated into Technology. Also, how do they solve the problem if they have it. The PSTs integrate their lesson plan into Technology and implement it in the practicum teaching process.

2.1. Participants

The PSTs followed the teaching practicum program for 14 weeks, The participants are PSTs who have been taught various basic English subjects, Curriculum and material development, Language curriculum development, Micro-teaching, and Classroom management related to pedagogical and methodological approaches. In particular, the component subject related to content knowledge already faced when in the first semester to the fourth semester. They got speaking, reading, listening, writing, vocabulary, and other English content to enhance their English knowledge. Also, PSTs received a course related to Technology. It is Technology-enhanced language learning. Recruiting fewer than four or five participants in a case study provides "ample opportunity to identify themes of the cases as well as to conduct cross-case theme analysis" (Creswell, 2012 as cited in Singh & Kasim, 2019). In this case, only three PSTs were willing interviewed.

2.3 Data Collection and Instruments

The key procedure of a Case study is collecting and analyzing multiple forms of data for description, themes, and lessons learned (Plano & Cresswell, 2015). based on that theory, this research will collect and analyze the data from multiple sources such as classroom observation, and Document analysis. The key instrument of this study is the Researcher, which supported by three kinds of data as Documents in this case lesson plan, observation sheet, and Interview guide. Moreover, their lesson plan was collected for further analysis, and the performance of PSTs recorded to see how and whether PSTs reflected their TPACK on their teaching practice. Direct observations in classrooms can yield much information about the nature of effective teaching (Good & Brophy,2000, as Cited in Wang et al., 2018).

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2.4 Data Analysis

The first step Researcher collect the data using documents, observation sheets and interview instruments. The second data was transcript based on the video file recorded when the data was taken in the field, and the interview result was transcript to become abstract data. Third, From the abstract data, the Researcher read through the data, neglected and divided PSTs teaching performance and utterance, which are not included in the focus of this research. The researcher was only read through data focused on their performance integrating Technology in teaching practicum. Fourth the researcher codes the data from the utterances in the practicum and interview. The coding process enabled the researcher to analyze and classify the data. In the coding phase, the researcher used some code to indicate the observation situation and interview point. In every line of the utterance, the code will help the reader understand who was spoken or asked and the data during the conversation. The researcher abbreviated each item to make them more simple, memorable to analyze, and easy to understand by the reader. The last, Researcher formulated the themes that occurred from the data results and reported narratively.

3. Findings

The findings of this research were from documents, Observations, and interviews, which were used to describe and answer the first research question about PSTs' Competency in using Technology in teaching English in the final practice teaching at the practicum program. The second question: If any, did they solve the problem they faced during the planning and implementation of Technology integrated at the final practice teaching practicum program.

3.1 PSTs A

3.1.1. Documents (lesson Plan)

PSTs A's practicum was at a private junior high school. The grade of his students was 9th-grade students—his lesson unit was about labels on foods, beverages, medicines, etc. 15 students attended in the classroom. The classroom was only provided with a projector but not computer. He used his laptop connected to a projector to display his power point slide in the class room.

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The first category focused on the match technology and curriculum in the lesson plan. PSTs A wrote lesson goal in his lesson plan "*students able to (1) merespon dan menggunakan ungkapan untuk menyatakan dan memberi instruksi; (2) Merespon dan membuat teks procedur; (3) Merespon dan membuat teks label"* **P's A LP Page 2.** Based on PSTs A lesson plan the use of technology written both digital technology and non-digital technology *"(1)Laptop/CPU; (2) Lcd Projector; (3) Film/video; (4) Gambar dan Foto"* **P's A LP Page 2.** His score was 3 In this category.

The second category focused on matching technology to instructional strategies, PSTs A's score was 3. It was mean technology used supports instructional strategies. Technology as mentioned above the digital technology but at teaching steps, he used non-digital technology "*Guru meminta siswa untuk memahami perintah dan memahami pertanyaan pada activiy 6 (halaman 65)*" **P's A LP Page 4**. he used text book as non-digital technology *"Guru meminta siswa untuk mengamati teks label sambil mendengarkan keterangan guru"* **P's A LP Page 4.**

The third category of the instrument referred to technology selection focused on matching Technology to both curriculum and instructional strategies. Considering many choices of Technology. PSTs A's decided to use the textbook and ask the students to analyze the text about food, beverages, and medicine labels. his score for this category considered was 3. Technology chosen appropriately but not exemplary given curriculum goals and instructional strategies. In his lesson plan

The fourth category was about the fit. Combine Technology, pedagogy, and curriculum. The score was 4. His plan included nondigital Technology was appropriate and harmony with content and pedagogy. The three-component mutually support.

3.1.2 Observation (Observation sheet)

PSTs' technological knowledge is appropriate. The class started with an ice-breaking. Students were asked by PSTs about the label and the function. PSTs introduce one of the label products. He has displayed the lesson used laptop, projector, and Power point program.*" oke Saya kasih lihat yah di slide, jadi label adalah singkatan secara…"* **PSTs A Ob Line 24.** This

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data shows that PSTs can operate the operating system, install software, and operate digital classroom equipment.

Only a few parts when teacher explain or communicate in English during teaching. *"1 orang 1 produk ya, carilah produk yang pertama makanan, minuman jadi itu aja 1 orang harus mencari produk food, drink"* **PSTs A Ob line 162-163.**

The screen displayed was written in English. Considering the level of students, He has spoken in Bahasa to avoid misunderstanding the lesson taught. Then Students seemed to pay attention to what was said by Him.

According to his plan in lesson plan students be able responding and make label text. Before he starts teaching. Firstly, he did an ice breaker then talk about label. *"oke saya kasih lihat ya dislide, jadi label singkatan secara umum pada produk, label minimal harus berisi nama komposisi dan sebagainya"* **PSTs A Ob line l24-l26.** he explained the component of label. After that he asked students to make group discussion. *"jadi bapak minta mungkin berkelompok yah disini kelompok 1 dan di sebelah sini kelompok 2, 2 kelompok aja yah jangan banyak banyak."***PSTs A ob line 150-152.** On several occasions he try to motivate his students *"tahan, buang. kita biar relax dan semangat pagi hari ini ya"* **PSTs A Ob line L10.**

He motivated students to remain enthusiastic in following the lesson. *"kita pemanasan dulu pertama tarik napas, buang! Tarik napas, tahan, buang. Kita biar rilex dan semangat pagi hari ini yaaa"* **PSTs A Ob Line 9-10.** He gave assignment to students in order to evaluate students' learning process. *"ada lagi? Jadi itu ya yang bisa dapatkan mengenai label. Terus saya mau kasih tugas deh jadi nanti dirumah cari produk 1 orang 1 produk yah, carilah produk yang pertama makanan, kedua minuman jadi itu aja 1 orang harus mencari produk food, drink"* **PSTs A Ob Line 160-16.** Question and answer, lecturing, Group discussion were used by him to develop students language skill.

Instructional use of technologies is effective in the observed lesson. At the beginning he opened the lesson while displaying the power point slide that showing some picture and text about label of product. *"nah ini adalah contoh produk yang kurang lengkap informasinya dan slide berikut ini lumayan lengkap informasinya namun sebelum itu kalian tulis dulu saya*

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tunggu" **PSTs A Ob Line103-105.** He used media LCD projector, laptop, and designed slide at powerpoint program.

3.1.3 Interview (interview protocol)

He operated technologies well, and the students listened to his explanation during the observed lesson. The students did not utilize Technology. He designed his class with the Microsoft PowerPoint program and displayed exciting pictures to discuss products and labels. The problem on observing the final practice teaching was that the screen was too small. Then he stood in front of the screen while explaining the lesson. Some students could not see the visual display. *"Kendala yang saya temukan tidak terlalu signifikan seperti kemarin itu pada layar untuk menggunakan LCD proyektor sedikit ada gangguan untuk layarnya kurang besar jadi kemarin itu saja yang membutuhkan dengan lcd tersebut"* **PSTs A In Line 30-35.**

Combining some technology collaborate. The picture of the label text displayed used the projector, and He used the Microsoft Powerpoint program to present the content. Introduce the label function in foods, beverages, and medicines products to the students. He said teaching media subject significantly support professional development using Technology when teaching." *ada teaching media"* **PSTs A In-Line 97**

3.2 PSTs B

3.2.1. Documents (lesson plan)

PSTs B was chosen as a Private Junior high school was her practicum placement. Her students were 9th-grade level. The classroom consists of 23 students. Learning steps as follows: She asked students to read and be concerned with the meaning of the label text. After that, students answered the questions about the label text displayed by her. Students requested collected information about the other example of food and medicines. Then the teacher showed some examples and explained how to read the labels.

The learning goal based on the lesson plan was *"Siswa dapat: (1) merespon dan mengetahui makna/pengertian dari label; (2) mamu membedakan labels on foods, drinks, medicines, etc"*. **P's B LP Page 1.** the first category PSTs B score was 4.

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The second score was 4. in the instructional strategies and technologies category. PSTs B wrote some of the Technology in her lesson plan *"Gambar/foto, laptop, lcd proyektor & boardmarker"* **P's B LP page 2**. the used of these technologies in teaching steps was very dominant *"Guru menampilkan contoh-contoh lain dari text label selain food and medicine"* **P's B LP Page 3.**

The third category was about technology selection. In her lesson plan described she used digital and non-digital Technology. She used a textbook, LCD projector, laptop, and whiteboard. The score was 4. because of the compatibility with curriculum goals and pedagogy.

For the 'fit' category, the content, pedagogy, and Technology fit together strongly. PSTs B's score was 4. she asked students to make some groups consisting of 4 students then students collected the pictures that were prepared by her. A further teacher told students to discuss the picture and the last students present the result of their discussion. When they saw the picture and presented their discussion result, the presence of a technology tool or teaching media greatly facilitates students' understanding.

3.2.2. Observation (Observation Sheet)

The technological knowledge of participants could be seen when they operate the technology equipment. *"ini contohnya ya, ada food, drink kemudian medicine ok…"* **PSTs B Ob line 70.** Based on the utterance above, PSTs B used the projector and laptop in the class. Even when she taught there was a problem with the projector.

The Content knowledge of participants could be seen and analyzed when they demonstrate their teaching activity in front of the class. In this case, her performance in delivering lesson material about the label of product delivered in Bahasa. Except for the target language such as food, drink, label, direction, medicine, ingredients, expired and etc. *"tau labelnya apalagi, nutrisi, cara pemakainanya, penggunaan, dosisnya kemudian apa lagi? Kita tau expired nya kapan"* **PSTs B Ob line 138-139.** The students read and spoke more than her in English. Particularly at reported the result of their group discussion work. *"I will explain about the label you can see this picture the name's product Pepsi natural labels of product*

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drink the ingredients water, natural apple, extract coloring, caramel coloring, etc. Ok, thanks for your attention assalamualaikum warahmatullahi wabarakatuh" **PSTs B Ob line 117-120.**

Teaching activity in the class started with one of game. *"semuanya berdiri dulu kita akan bermain tebak perkata"* **PSTs B Ob Line 17.** she used lecture method and group discussion *"sekarang kita akan melakukan diskusi. Sekarang kalian akan bikin kelompok tapi ibu yang bikin kelompoknya ya"* **PSTs B Ob line 71-72.** she explained part of label then students divided into some groups and each group given a text. Students chose one of those to present in front of the class about the result of their discussion. *"perwakilan satu orang presentasi ya ayo bantu semangat untuk kelompok satu"* **PSTs B Ob line 89-90.**

In some circumstances some students distracted by other students, to keep students focused she tried to call and remain her students. *"Perhatikan temannya"* **PSTs B Ob line 100** and *"Ayo perhatikan temanya"* **PSTs B Ob line 104.** She evaluated the students about the lesson in the end of meeting. *"kemudian apa lagi informasinya uda itu aja baik itu saja yang bisa kita simpulkan apa yang kita pelajari hari ini. Ibu ingin mengetes kalian seberapa jauh kemampuan kalian tentang label ini dan kembali ketempat kursinya masing-masin seperti awal"* **PSTs B Ob line 140-143.** lecturing, Group discussion were used by her to develop students' language skill.

3.2.3 Interview (Interview protocol)

There was trouble when at the beginning of the lesson. The projector could not be turned on. She tried to fix the projector and collaborated with other PSTs while speaking to her students to avoid students being distracted by the troubleshooting. *"Kalau saya minta bantuan ke guru guru lain yang lebih paham tentang hal itu karena yang membuat mati mati itu dari colokkannya yang longgar"* **PSTs B In line 88-91.** She demonstrated the ability to troubleshoot. *"Mengalihkan perhatian mereka dengan memanggil namanya dan mengajaknya bercanda"* **PSTs B In line 104-106.** She designed material into PowerPoint slides to engage her students in content learning. She used a question sheet to support her explanation of the lesson-specific curricular standards and divided students into groups. Students seem easily understand the direction given by her.

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She used technology tool such laptop, projector collaborated with white board as the screen. The function classroom equipment could be used according to urgent circumstance. *"Digital dan non digital yang saya gunakan yang non digital saya menggunakan spidol untuk menulis di papan tulis kata kata yang penting"* **PSTs B In Line 38-40.** The creativity of PSTs was highly demanded when teaching to enhance students' English skill. The final practice teaching was observed has a lack time allocation that not managed properly. *"Untuk lingkungan dan fasilitas cukup memadai hanya saja ada kendala pada siswa/siswinya dimana pada saat mulai pembelajaran ada yang masih di kantin jadi kita panggil dulu ketua kelasnya untuk mengumpulkan mereka semua sehingga kelas dapat di mulai pembelajarannya"* **PSTs B In Line 22-27.**

3.3 PSTs C

3.3.1. Documents (Lesson Plan)

PSTs C practicum school was a state junior high school. There are 30 students. The level of students was 7th-grade class. The coursebook unit was about objects, numbers and positions. Also, students' ability to write a short-expression and answer questions about objects or things.

The first category of the technology integration to curriculum goals. Her score was 4. the curriculum goal combined with non-digital technology. *"peserta didik diharapkan dapat: mengidentifikasi ungkapan yang digunakan untuk meyebutkan nama benda disekitarnya dalam bahasa inggris"* **P's C PL Page 2.** when using technology in real terms directly enhance students understanding to achieve curriculum goals.

The second category score was 4. it was about instructional strategies between Technology. Students divided into some groups and then students observing pictures. Subsequently, teacher asked students some questions about objects, number and position. *"guru mencontohkan cara membacakan kalimat diikuti dengan siswa"* **P's C LP Page 4.** The steps indicated that utilization of Technology such as whiteboard in the order given example to students as appropriate.

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The third category focused on technology selection. PSTs C used nondigital Technology in her class. A worksheet, the assessment sheet, picture, ruler, board marker, whiteboard, and the object picture board as media or teaching tool is written in her lesson plan. Considering the equipment of the class was limited. The use of these technologies is considered compatible with pedagogy and curriculum goals. The score was 4.

The last category. PSTs C score was 4. The plan in every step of the teaching process combined with Technology blended with the content gathered become an effective lesson plan.

3.3.2 Observation (Observation Sheet)

She prepared some pictures and then the image stuck on a small board. She used that board to discuss objects in the class. *"ya next halaman 62 dibuka dan yang tidak ada gambarnya dicari ya"* **PSTs C Ob line 111-112.** She used books and other non-technology. The significant difference between the other participants was seen in the use of Technology, digital and nondigital.

Her performance in the order of content knowledge seems well prepared. The lesson was about objects in the class, preposition, article, singular, and plural. *"Bener nda apa yang dijawab arel, lanjut arel lagi yang ini where is the book? Ada yang bisa bantu arel? Siapa, aini, ini bukunya dimana sih"* **PSTs C Ob Line 65-67.** She explained the lesson mixed Bahasa and English even mainly communicated in Bahasa.

Teaching about objects, her method in the class used to question, answer, and discuss. After Participant checked the attendant list, to boost students' attention and enthusiasm she designs such role-play combined chant *"if you happy and you touch your ears, ears apa ayoo salaah yaa. Ulang yah ulang yah. Kita pilih benda benda disekitar yaaa. If you happy and you touch your book hahaha kertas juga nda papa yah ayo satu one"* **PSTs C Ob Line 43-47.**

PSTs C explain about objects in the class by questions and answer approach. *"table, ada gak sih benda benda ini di dalam kelas kalian?"***PSTs C Ob Line 59-60.** She also made group discussion and asked students present their answer in front of class. *" jadi contohnya seperti ini ya. Ini nomor satu contohnya jadi gak perlu ditulis. Disini ditulis nama kelompok*

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aja ya. Ini satu kertasnya berdua aja ya sepasang dengan teman kalian" **PSTs C Ob line 193-196.**

She manages her classroom learning environment by keep students focused. questions and answer, explained used model or picture and group discussion were applied. *"ni yang terakhir ni ada yang tau belum, bahasa indonesianya apaa ni. Kalau bukunya ditengah tengah, coba surya kasih kalimatnya give you said. Ini apa ni penggaris apa bahasa inggrisnya?"* **PSTs C Ob Line 85-89.** She evaluates and conclude the lesson to check the students' learning process was success or not. "manfaaat kita belajar ini yang tadi. Dengar yah jadi manfaatnya kalau ada pertukaran pelajar keluar negeri itu yang bisa kalian gunakan. Miss mau minta tolong ni nanti pas liburan jalan jalan tu kemana mana, nanti kalian cari lima kata benda yang kalian temukan ketika jalan keluar nah misalnya kalian keluar pergi mancing dapat ikan, ikan bahasa inggrisnya apa" **PSTs C Ob Line 293-301.**

She used a square board with the picture *"Silahkan duduk. Nah tadi kita sudah belajar benda benda disekitar kita ni nah tadi arel salah nih jadi kena hukuman. So what do you think about this picture, apa yang kamu pikir tentang gambar ini ada? "***PSTS C Ob line 51-55.** The class observed limited technological digital facility only non digital technology such board marker, whiteboard and course book were available.

3.3.3 Interview (Interview Protocol)

In order to take advantage from technologies has been shown by her when she teach with limited facilities. She used non digital technologies such as board marker, White board, picture board, and course book and exercise sheet.*"Oo saya lupa bawa kalau pas ujian yang di pakai non digital aja jadi saya cetak gambar dikertas terus saya tempel di papan ukuran 30 x 30 karena memang belum ada alat atau proyektor dan di labnya belum ada proyektor juga"* **PSTs C In Line 48-52.**

Technology collaboration tool used to support students language learning "*Kalau teknologi digital yang kemarin saya gunakan seperti speaker saya bawa sendiri, untuk speaker sendiri itu sangat berguna bagi saya sendiri dan siswa siswinya lebih semangat lebih paham jadinya karena langsung belajar speaking dan listening"* **PSTs C In line 42-47.** She also

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collaborated with school stakeholders "*Pada awalnya susah karena masih bingung antara teknologi sama materinya bagaimana bisa menyatu dan masih dalam bentuk minim juga teknologi sekolahnya tapi, makin kesini akhirnya dituntun juga dari guru pamongnya dan pada akhirnya tidak kesusahan lagi"* **PSTs C In line 91-96.**

4. Discussion

4.1. PSTs teaching English with digital Technology

Commonly, the school provides digital technology equipment to support the teaching and learning process. Both participants were equipped at the school for their practicum. The critical tools for using digital Technology in teaching are projectors and laptops. They can use it to show pictures or information and explain to students. "ya benar prjectornya milik sekolah" **PSTs A In line 34-35.** "projectornya difasilitasi oleh sekolah" **PSTs B In line 79.** However, the difference with PSTs C is that there were no projector facilities in his place. The impact is She has to teach using more nondigital Technology. Based on the circumstance the TCK or technological content knowledge was ineffectively because the option of technologies that should be used in teaching very limited.

The other digital Technology that is very useful is Internet access. It can help teachers and students find information or learning resources independently. PSTs A and PSTs B facilitated internet signal or WIFI in the school. Different from the PSTs C school. "kemaren waktu cari materi, saya cek iya ada WIFI" **PSTs A In line 57.** "WIFI juga tersedia disana" **PSTs B In line 35.** "kelihatanya tidak ada" **PSTs B In line 61.** a multimedia tool, Collaboration tool, Animation tool, and support students to use Technology to develop their language learning skills independently was not involved in this practicum by PSTs.

4.2. PSTs teaching English with non digital Technology

PSTs demonstrated the ability to use a book, whiteboard, marker, board, and printed pictures. "Biasanya pakai buku dari sekolah yang dipakai untuk siswa kelas 9" **PSTs A In line 38-39.** "untuk nondigital biasanya saya menggunakan papan tulis dan sepidol untuk menulis kata yang saya anggap penting" **PSTs B In line 38-40.** "saya cetak gambar di kertas kemudian saya lem di papan ukuran 30x30 cm" **PSTs C In line 47-48. T**he participants used non digital

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Technology to support teaching process. PSTs A and B use non digital Technology to support digital Technology combine it in teaching process, while PSTs C used it as the primary media in her teaching process. In this case she teach kind of about object in English., PSTs creativity was demanded to achieve curriculum demand and improve effectiveness to enhance students' language skills.

4.2. PSTs' responses to technology-related challenges encountered during practicum.

All the PSTs problems using technology the class are the equipment quality is not optimal. "kemaren ketika saya mau mulai pelajaran, proyektornya mati" **PSTs A In line L81.** "ya. Menghidupkan projectornya agak susah" **PSTs B In line L75-76.** When the PSTs face the situation like this the response are " sambil memperbaiki kerusakan proyektor, kita bertanya kepada siswa tentang keadaan mereka, jadi mereka tetap masih bisa dikontrol **PSTs A In line L83-85. "**Saya minta tolong kepada guru lain yang lebih mengerti dalam memperbaiki kerusakan tersebut" **PSTs A In line L81-82.** Both of them have different respond faced the problem but they try to control the class situation while the teaching process keep go on.

The other problem seen in the connection of the internet, although available but the quality of network is slow "sinyal tidak terlalu bagus" **PSTs A In line L54.** To overcome the situation, they find the lesson resources from the internet outside of school, "saya cari dirumah" **PSTs C In line L58.** also, they use the book "ya ada buku paket" **PSTs A In line L41.** They could take advantage of Technology to explain their curriculum goal about various topics in English. Bu, PSTs must try to find another way when they face problems using Technology in teaching.

The result from this research showed all of pre-service teacher actually capable in integrating Technology at their practicum program even there many problem and various situation that effect to them and their performance. The findings of the present study are in parallel to the findings of similar study by Kwangsawad, (2016) This implies that EFL pre-service teacher education program have proved to be successful in training teachers with highly developed TPACK knowledge that provides them with skills and knowledge of Technology to be implemented in their practical teaching.

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5. Conclusion

In this section, the Researcher concluded all the research findings based on two study objectives that Chapter 1 had stated. They were 1) to explore PSTs' final practice teaching in practicum integrated into Technology (2) how they solve the problem if they have it.

First, there was a mismatch between the lesson plan and teaching practice at the practicum. Types of Technology selection and time allocations in written teaching steps did not match practice.

Second, most of the participants used Technology when they taught at practicum. The technological non-digital classroom equipment is provided. PSTs A and PSTs B provided an LCD projector from their school practicum placement but was not for laptop and students centered software. They prepared by themself independently to enhance students' language skills.

Third, PSTs shared that they initially struggled to combine Technology, pedagogy, and content. After they discuss, observe, and suggested by their teacher advisor in the school practicum placement. When they were observed by Researcher, they seem confidently use Technology combined with content and instructional strategies in the final practice teaching at practicum.

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