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# PRE-SERVICE EFL TEACHERS' EXPERIENCE IN INTEGRATING TPACK DURING TEACHING PRACTICE PROGRAM

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## Abstract
This study explains the experience of Pre-service EFL teachers in integrating TPACK during teaching practice programs. This case study was to investigate twelve Pre-service EFL teachers in English education at the Universitas Islam Majapahit who has carried out a teaching practice program and applied technology. Data collected from their interviews, lesson plans, and teaching videos were analyzed using thematic analysis. The finding indicates that (1) Pre-service EFL teachers familiar with TPACK from its various classifications for teaching English; (2) Pre-service EFL teachers integrated TPACK for learning activities and doing assessment; (3) the contribution of TPACK for Pre-service EFL teachers during the teaching process has a positive impact on students and makes it easier Pre-service EFL teachers in administrative management.

**Keywords:** pre-service EFL teachers', teaching practice program, TPACK

## Introduction
Learning environments of the 21st century integrate various technological devices, facilitating a comprehensive series of interaction processes between students and teachers with learning resources. It can be seen since growth opportunities that connect with understudies in encouraging sociological, mental, logical, useful, also mechanical skills toward work in an environment of work (Koh, 2016, 2015). Koh et al. (2016) and Koh et al. (2015) reported that PC innovation utilization within instructive conventional did not just earn a few benefits but required a few components of teachers' guidance (Chin & Hortin, 1994). One of the competencies teachers must have in learning in the 21st century is the learning design ability by applying the principle of combining knowledge of teaching materials, pedagogy, and information and communication technology, known as TPACK. TPACK approach is developed from the Pedagogy Content Knowledge (PCK) approach, which was first introduced by Shulman in 1986. The TPACK system does not simply zero in on one educational direction but includes different information. Mishra and koehler (2006) planned a theoretical system, i.e., Innovative Instructive Substance Information (TPACK), that outfits a specific



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language in looking at education, learning, and innovation. (Wang, 2018) reported intending to combine TPACK-linked exploration towards pre-administration educators. An all-around applied TPACK might give educators to accomplish a superior comprehension of how innovation might advance students learning (Koehler & Mishra, 2008; Mouza 2017; Shih & Chuang, 2013). There are different parts in the TPACK structure made as a collaboration among the three spaces of instructor information inside the system of TPACK. These parts include; Innovative Substance Information, Educational Substance Information, Mechanical Academic Information, and Innovative Instructive Substance Information. These parts are thought of as similarly vital to the system (Koehler & Mishra, 2009; Yurdakul, Odabasi, Kilicer, Coklar, Birinci, & Kurt, 2012).

Technological developments have made great strides in modern times, especially in education. The current development of TPACK has a major influence on the learning process, so the 21st century encourages all teachers and education practitioners to have extensive knowledge of TPACK. Teaching will be attractive and fun if pedagogy, technology, and content are used together. TPACK is the knowledge teachers need to utilize technology by integrating it into the learning process. English Pre-service Teachers must acquire and develop teaching skills in TPACK as part of their initial teacher education (Drajati, 2021). Content Knowledge (CK), Pedagogical Knowledge (PK), Technological Knowledge (TK), Technological Pedagogical Knowledge (TPK), Technological Content Knowledge (TCK), Technological Pedagogical Content and Knowledge (TPACK), and Pedagogical Content Knowledge (PCK) are the seven components of TPACK, which teachers could utilize for integrating technology into their classes. For example, teachers cannot carry out direct assessments. Using Google Forms would greatly help teachers provide an online assessment to students. Teachers must have technical knowledge, skills, and competencies to integrate technology into learning effectively and efficiently (Mishra & Koehler, 2006).

Pre-service Teacher arrangement programs are accused of building the information required for passage-level instructing. This readiness normally comprises four divisions: innovation courses, content courses, strategies courses, and training/temporary position encounters (Niess, 2015). As the initial learning experience before becoming a teacher at a school, Pre-service Teachers' should be introduced to the TPACK framework (Mishra & Koehler, 2006). TPACK is also a learning approach that is very relevant during the current covid-19 pandemic, where the learning process transforms from the classroom to online learning. Cahyono and Kurniati (2016) showed that TPACK arranged showing practice course helps Indonesian EFL instructors work on the nature of their EFL educational plans and instructing rehearses. Educators need to build a strong information collection of innovation, instructional methods, and content to design viable education with innovation (Hughes, 2005; Koehler & Mishra, 2005). More often than not, these examinations center around showing English as an unknown dialect and the customary abilities to peruse, compose, talk, and tune in. They are inadequate in analyzing instructors' TPACK with regards to creating information on language close by other significance-making frameworks, and they did not recognize that education needs to include past print proficiency (Baser, 2016; Tseng, 2016). In the classroom, TPACK can use by pre-teachers and in-service teachers. This framework is beneficial for EFL teachers to make the student

learning activity program successful. As a result, students are more enthusiastic about learning English because they study in a way that is not boring and interactive.

There are several previous studies related to the topic of TPACK. Inpeng (2020) found that prospective EFL Thai teachers held TEFL classes using Facebook as an educational tool. Furthermore, Drajati (2021) noted using the TPACK-21CL model in preparing lesson plans for teaching practice or microteaching. TPACK proficiency places are Instructive Substance Information for Education of Multimodal, Mechanical Academic Information (21st C Learning), and Information about advanced media devices (Drajati et al., 2018). Another study was conducted by Tan (2019), in this review, scientists researched what elements and things were important for inspecting pre-administration educators' TPACK in multimodal education. Aniq (2019) reported the research to concentrate on expects to seal the hole how educators of EFL seven-way TPACK spaces. However, several researchers investigated several previous studies about TPACK in several previous studies. There is no research on Pre-service Teachers' experience incorporating the TPACK framework during teaching practice activities. Considering the above statement, the researcher sees a gap that would become the novelty of the research results to be carried out. The researcher is interested in researching Pre-service Teachers' experiences integrating TPACK into their teaching practice programs.

## Method

This study used a qualitative approach and a case study type of research. Ary (2010) stated that a case study was research about an issue in real life while data collection used multiple data collection techniques. The researcher in this study is the researcher as a full observer of the participants. The researchers acted directly in the data collection process by interviewing the participants individually and then taking data through lesson plans and video participants' teaching practices. The researchers also analyze the data from the participants who met the criteria. Researchers consider their studies in the English Learning Program of the Faculty of Teacher Training and Education at Majapahit Islamic University. Based on previous research, many researchers collected data TPACK from schools and universities. Sari (2021) stated that the study took data from teachers in senior high schools in Indonesia.

Drajati et al. (2018) examined Pre-service teachers and in-teachers at several universities in another case. However, The results of observations by researchers at the Majapahit Islamic University show that no research has been conducted on the TPACK topic. Researchers use primary data from twelve EFL Pre-service Teachers in English education at the Majapahit Islamic University. Participants must first meet the criteria provided that the participant has carried out a teaching practice program and applied technology. The researcher would also take verbal data obtained from interviews, lesson plans, and teaching videos of participants. The research investigated a single case through multiple data sources, for example, Interviews and Documentation. Interviews were conducted with participants directly by complying with health protocols. In addition, participants who are difficult to find can be the online Interview. The researcher would ask several questions related to TPACK to participants who have met the criteria.

Not only interviews but also the researchers also took data through Documentation obtained from lesson plans and videos of Participants' teaching practices which is beneficial to strengthen Participants' opinions. The study uses thematic analysis for data analysis. According to, There are four steps for analyzing the data. First, read and understand the data several times. Write down whatever comes to your mind while the researcher is reading. Researchers then perform open coding by identifying significant parts of the data. Then, merge open the codes from multiple categories. Finally, combine the types into themes (Sugiyono, 2014). The finding of this research is based on theory and self-classification. The data collected by the researcher must be validated. The data validity is checked by triangulation technique to use triangulation of sources and techniques (Sugiyono, 2014), namely Pre-service EFL Teachers' and classroom teaching videos, lesson plans, and interviews. So, the data was taken from different participants with permission and through a concern form.

## Findings and Discussion

Based on Interviews with twelve Pre-service EFL Teachers 8th semester of English education at Majapahit Islamic University, This section focuses on presenting participants' experience in teaching English, especially to find out the use of technology and their TPACK. The findings are compiled based on seven aspects of TPACK: Technological Knowledge (TK), Pedagogical Knowledge (PK), Content Knowledge (CK), Pedagogical Content Knowledge (PCK), Technological Pedagogical Knowledge (TPK), Technological Content Knowledge (TCK), and Technological Pedagogical Content Knowledge (TPACK).

### *Pre-service EFL teachers' knowledge of TPACK on Technological Knowledge (TK)*

Based on technological knowledge, pre-service teachers can use various information and communication media in teaching or learning, including YouTube, E-learning, PowerPoint, *Google Meet*, Quizziz, Zoom, and Cake applications.YouTube and Powerpoint are used to explain the material, while Quizziz is used for assignments. Pre-service teachers have started using information and communication media since elementary and lower secondary schools accessed through "warnet", mobile phones, and laptops. Look at the data below.

> P2/extract3 : "*Since junior high school, from getting to know the internet if you search for assignments via Google like that*."
> P3/extract4 : "*One of the digital media that I use is the use of PPT in delivering material*."
> P4/extract2 : "*Yes, I can, since elementary school. So, from the "warnet".*
> P6/extract8 : "*…One of the applications that I use in studying is the cake application.*"
> P9/extract5 : "*So far what I use the most is PowerPoint. Or maybe YouTube can also explain material to students and during this pandemic the most commonly used applications are the Zoom application and also Google Meet. Maybe one other thing can be a quizziz to practice the questions*."

The interview results above show pre-service teachers' knowledge of various information and communication technologies often encountered in the 21st century. As stated by Herring, Koehler, and Mishra (2016), teachers can use information and communication technology hardware and software.

***Pre-service EFL teacher's knowledge of TPACK on Pedagogical Knowledge (PK)***

Based on the experience of pre-service teachers, student learning during the teaching practice program has a positive impact on students. Students are more active and feel happy when the pre-service teacher explains the material to students who have not been able to appreciate pre-service teachers because the ages of students and pre-service teachers are quite close. Pre-service teachers also master the theory related to education so that the learning process can be maximized. Then, pre-service teachers conduct an assessment to measure students' ability to understand material. Assessments for students are not only knowledge assessments, skills assessments, and attitude assessments but also formal and informal assessments.

> P3/extract 9 : *"Erm, students are very enthusiastic in the learning process because they use the interesting PowerPoint media."*
> P4/ extract 11 : "*When I was a PPL at that time, the assessment was more of an informational assessment and a formal one. Information like us or ask questions before starting the lesson. If it's formal, it's more of an evaluation, so after the learning process I evaluate it*."
> P5/extract 6 : "*As long as my PPL is in class 10, it's quite fun that the students are active. When I explained the students asked that. Then also if he does not enter the class that is also permission first. Yes, it's quite fun for the students to follow suit*"
> P7/extract 10 : "*...behavioristic theory. Well here is a theory that studiesbehavior in the learning process. In addition, here the theory views a change in behavior as a result of interactions in the classroom. For example, the students read it fluently in the lesson. If this cognitive theory is more concerned with the learning process than the learning outcomes ... there is a humanistic theory which seems to be human, which means it humanizes humans*."
> P11/extract 4 : "*Then the assessment that I use is threefold, namely the assessment of attitudes, knowledge, and skills*."

The data of P3 and P5 above shows that the student's responses during the teaching practice program have advantages and disadvantages. This shows that the learning process requires good interaction between pre-service teachers and students. Meanwhile, data from P7 shows that pre-service teachers understand various educational theories, including humanistic, cognitive, constructive, and behavioristic theories. So that through these various theories, pre-service teachers can improve the quality of teaching and can motivate students. The data P4 and P11 above show that the assessment can improve students' understanding of the material. Herring, Koehler, & Mishra (2016) said that pedagogy knowledge

includes various theories related to education, student learning, and learning assessment.

***Pre-service EFL teacher's knowledge of TPACK on Content Knowledge (CK)***

Generally, pre-service teachers use various learning materials when implementing teaching practice programs. This is because several pre-service teachers teach at different schools and grade levels, so the material delivered depends on the school where the teaching practice is located. The material presented by the pre-service teacher includes descriptive texts, announcements text, invitations, greeting cards, narrative text, recount text, job application letters, news items, news reports, and reports text. From the interview results, above pre-service teachers understand the learning materials given to students. The understanding of pre-service teachers ranges from 85 per cent to 90 per cent. Look at the data below.

> P1/extract 14: *"God willing, 90 percent I understand the material."*
> P3/extract 14: *"As I have mentioned several times earlier, at that time I brought material about greeting cards at PPL."*
> P5/extract 9: *"During the PPL, I used descriptive text. Well, at that time I was PPL for 2 months, so it turned out that the material was lacking. So, the tutor teacher asked students to provide additional material. So, the descriptive text and announcement came from the teacher's own request."*
> P6/extract 16: *"85 percent, I already understand enough about the material that I will convey."*
> P9/extract 11: *"From the material itself, at that time I taught 10th grade. During PPL in the middle of semester 1, I think that only text materials were left such as descriptive text, recount ment text, and I also taught narrative text.*
> P12/extract 16: *"There are three materials that I give to students, namely job application letters, then news items, and then news reports."*

The P3 data above shows that pre-service teachers use one of the learning materials at the junior high school level. Meanwhile, data from P5, P9, and P12 indicate that pre-service teachers use high school or vocational high school learning materials. The learning materials at this level are mostly about the types of texts in English lessons. Based on data P1 and P6 indicate that pre-service teachers have different abilities in understanding a learning material in class. The understanding of pre-service teachers can affect students' ability to speak English. Therefore, pre-service teachers always learn before they teach in class.

***Pre-service EFL teachers' knowledge of TPACK based on Pedagogical Content Knowledge (PCK)***

From the interviews, this study found that the types of teaching resources used were: pre-service teachers during teaching practice, including physical books, textbooks, pdf books, websites, and youtube. Look at the data below.

P7/extract 14 : *"I use sources from Google and use textbooks in the school library, from youtube as well. Yes, I use websites like wikipedia, brainly, and many more. I'm looking for aneasy-to-understand reference."*
P8/extract 15 : *"Browsing about the material is about the material that I will give to the students. Find out the references from the internet or websites. It can also be from student textbooks or physical books."*

Based on the data above, source usage of this teaching can depend on the facilities and infrastructure in each school, so pre-service teachers try to get the maximum teaching resources so that students more easily understand the material. The use of appropriate learning methods to deliver material can improve students' abilities in the learning process.

***Pre-service EFL teacher's knowledge of TPACK based on Technological Pedagogical Knowledge (TPK)***

Based on the experience of pre-service teachers, using technology in classroom learning is very helpful because it makes it easier for pre-service teachers to attract students' attention in learning and conducting assessments. Also, pre-service teachers apply technology, including Google Classroom, Quizziz, and YouTube, to learn English. This technology application helps pre-service teachers in teaching and learning processes.

P1/extract 18 *: "The learning method that I often use is problem based learning. That is, asking students to solve a problem that I gave."*
P2/extract 25 *: "If I use the discussion method. So, I made this method so change ideas with one another."*
P3/extract 18 *: "At that time I used the discovery learning method. That is where the student learning process, here students get knowledge that was not previously known by not being conveyed beforehand."*
P5/extract 13 *: "The learning method I use is problem solving. In the form of a student, I gave a question. Then, I asked him to find an answer to the question."*
P9/extract 17 *: "The method I use is the question and answer method. Where I think there will be a reciprocal relationship between students and teachers so that teaching and learning activities in the classroom can be carried out properly."*
P11/extract 6 *: "For the teaching resources I use, I refer to the package book, the teacher's guide given by the civil servant teacher. The learning method as I mentioned earlier is that I use cooperative learning."*

Based on the data above, pre-service teachers use various teaching resources and learning methods to improve understanding and ability in the English language. In terms of learning methods, This research is in line with Herring, Koehler, and Mishra (2016), that applied pedagogical strategies or learning methods to make topics easier for students.

***Pre-service EFL teacher's knowledge of TPACK based on Technological Content Knowledge (TCK)***

From the results of the Interview, This study found that technology or social media that are good for delivering material are YouTube, Zoom, and PowerPoint. The use of these media makes it easier for pre-service teachers and students to understand English material. Pre-service teachers have used technology to create interesting English content. Look at the data below.

> P4/extract 24 : "*Yes, I used to create content in microteaching courses or novels, maybe I forgot. So, I made English content on YouTube."*
> P5/extract 15 : *"The reason is because I think it's because of the teacher's technology, for example, I once invited it, I really feel like it's helped, isn't it? For example, I use media, for example, I use PowerPoint, so that's like summarizing the material that many of my books try to include in PPT. It is very helpful than reading a lot. So, simplify and minimize time."*
> P8/extract 24 : *"The application of technology in learning English is my own experience during PPL. I deliver the material through PowerPoint itself. Continue to share material to Google classroom. And I also use quizziz for practice questions. For the application of learning English myself when I watch and listen to songs on YouTube, yes, even though there are song lyrics, but from there I can improve my pronunciation in speaking English."*
> P9/extract 19: *"I think technology can attract more students' attention in learning. Maybe as mentioned earlier, such as PowerPoint with an attractive template. with an attractive template. Or you can also use multimodal text, which is almost like a pop up book, but multimodal text is online, so I think this is a novelty."*

Based on the data above, technology contributes to various kinds of content or materials, both learning and others. Therefore, pre-service teachers have become more creative and innovative in facing the development of an all-digital era. Data from P5 and P9 show that pre-service teachers can contribute technology and pedagogy to improving students' learning abilities in the classroom. Then, the P4 and P8 data show that applying technology in English also positively influences students' English language skills. This matters stated by Herring (2016) that knowledge of the specifications of various technologies allows teaching methods without references.

***Pre-service EFL teacher's knowledge of TPACK based on Technological Pedagogical Content Knowledge (TPACK)***

In general, during teaching practice, pre-service teachers use various technologies, including PowerPoint to deliver materials, google classroom to share materials, and mobile phones and laptops to access materials. So that pre-service teachers agree that technology is used in the English learning process even though there are many obstacles and challenges for teachers and students.

> P4/extract 30 : *"The challenge is the teacher who is clueless. Young teachers can motivate or provide education about technology from students*

*to teachers. So, often hold workshops to increase knowledge about technology."*
P5/extract 27 : *"...So, the challenge as teachers is not to be "tacky" like that. Accompanied by interesting technology or technological improvements, users must also be able to apply them better."*
P9/extract 31 : *"As for the problem, I think there was a time when I was a PPL, there was an incident when I gave PowerPoint to the children, they opened it using a smartphone. Well, it turned out that when I explained in front I thought he was opening the PowerPoint that I gave him, it turned out that he opened it differently because the PowerPoint I gave him kept opening on his cellphone, ...it could also actually be from a projector, but because in SMK the facilities and infrastructure are very limited. So, At that time, there was only one projector or how many if I'm not mistaken and that has also been used by the teacher since this morning and has been used for teaching. Sometimes it is also placed in a laboratory so it is difficult to use the projector and will take longer."*

Based on the results of interviews, This study found that various technologies have their respective functions in helping pre-service teachers during the teaching and learning process. This is in line with Herring, Koehler, and Mishra (2016) opinion that TPACK is knowledge that uses various technologies to teach, express and facilitate knowledge creation on a particular subject. Based on the explanation above, pre-service teachers or other teachers need to participate in training activities, seminars, and workshops on the use of technology in the current digital era so that they are not outdated and educational goals can be implemented properly. This research proves that TPACK provides positive experiences and influences pre-service teachers and students. This is, of course, also based on the needs of teachers and students.

***The integration of TPACK in teaching practice using a teaching method***

Integration of TPACK in teaching practice using the discovery learning method. One of the participants said, *"At that time I used the discovery learning method. That is where the student learning process, here students get knowledge that was not previously known by not being conveyed beforehand."* (P3/extract 18). Based on the lesson plan, the implementation of the media is in the form of cell phones and laptops. The learning approach uses a scientific approach. In practice, twelve teacher candidates integrate TPACK into the classroom.

***The integration of TPACK in teaching practice by giving assessments***

The integration of TPACK in teaching practice by giving assessments or assignments. Participants reported, "*When I was PPL, I did attitude assessment and task assessment. For the assessment of his attitude, I took from the activeness of the students*" (P5/extract 8). Others said, "*I judge students by knowledge and skills*." (P3/extract 11). Based on the lesson plan implementation of the assessment for students based on attitude assessment, skills assessment, and assignments or projects. Whereas in practice, not all teachers conduct assessments using technology.

***The integration of TPACK in teaching practice by delivering materials***

The integration of TPACK in teaching practice through material delivery. Based on the lesson plan, implementing TPACK for material delivery is appropriate. Likewise, with practice in the classroom, Pre-service EFL Teachers can use technology as a medium for student learning so that students are more interested and enthusiastic in learning English.

Based on the lesson plan, P3 integrates TPACK through the discovery learning method. This learning process presents unreal problems or the results of teacher engineering to lead students to find their own solutions to these problems. In addition, P3 also uses a scientific approach that includes Literacy Activities, Critical Thinking, Collaboration, and Communication Creativity. The P3 literacy activity showed that the pre-service explained the material related to the social function of interpersonal relations, the special text of the greeting card, the structure of the greeting card text, the suitability of the writing/delivery format and the accuracy of using linguistic elements in the greeting card text. Learning activities begin by opening with greetings, praying to start learning and checking student attendance. The pre-service teacher conveys motivation about what can be obtained (objectives & benefits) by studying the material. Then the pre-service teacher explains the things to be learned, the competencies to be achieved, and the learning methods to be taken.

The next learning step is the core activity, starting with literacy activities. Students are motivated and guided to see, observe, read and rewrite it. They were given greeting card materials. Then the Critical Thinking activity shows that the teacher provides an opportunity to identify as many things as possible that have not been understood, from factual to hypothetical questions. This question must remain related to the material. Then, P3 shows the activities of students discussing, and collecting information, then students presenting again and exchanging information with other students or collaborative activities. After that, students present the results of the group or individual work classically, express opinions on the presentations made then respond by groups or individuals who present the material that has been explained. In the last core activity, the teacher and students make conclusions about what has been learned. In the closing activity, students summarise or conclude the lesson about the important points that appear in the learning activity that has just been carried out. Then, the pre-service teacher reminded students about the importance of maintaining health and obeying health protocols. In the closing activity, the pre-service teacher ended the lesson by reading a prayer and saying greetings.

Based on the P3 learning video shows that students are more interested in participating in learning because the pre-service teacher explains the material using laptop technology to display Powerpoint on the blackboard. The pre-service teacher also conducts an assessment through several questions in the Powerpoint. The duration of teaching practice is still not in accordance with the pre-service teacher's lesson plan, but learning can run smoothly and conducive. In addition, pre-service teachers conduct learning following the learning objectives to be achieved.

***The contribution of TPACK for pre-service EFL teachers***

TPACK's contribution to doing projects for Pre-service EFL Teachers results in learning media for students, video content on YouTube, and writing captions on social media such as Instagram, WhatsApp, and Twitter. Several factors influence this because many students feel bored when learning is not based on technology. One of the participants said, "*Of course, these students are more enthusiastic when using technology. We know today's students are more active when using cell phones. If they use the book, they seem bored when I see it. (*Herring, Koehler, & Mishra, 2016)" (P6/extract 27).

In addition, the lack of knowledge of teachers using technology is still limited, especially among senior teachers. So they need to be taught to use TPACK so that they are not out of date and students can feel comfortable in class. Participants reported, "*The learning during PPL, I think is quite conducive and there are only a few students who need more attention*." (P11/extract 4). With seminars, workshops, or teacher training on using technology in learning, TPACK can contribute to the learning process. One of the participants said, "*So, maybe there is another technology that I may not know about from those seminars or maybe workshops can also be attended so from there we can get knowledge and guidance so that the teacher can be more innovative.*" (P9/extract 34)

## Conclusion

From the results of the research above, the researcher concludes that pre-service teachers understand TPACK in terms of technology for learning media (mobile phones, laptops, youtube, PowerPoint, google meet, zoom, google classroom, quizzes), learning methods (discovery learning, cooperative learning, question and answer, problem-solving, discussion, problem-based learning, educational theory (humanistic, cognitive, constructive, behavioristic), and creating English content to facilitate English language teaching. Pre-service teachers also believe that integrating TPACK into the English learning process influences the ease of material delivery and student assignments or assessments. Then, technology makes it easier for pre-service teachers for administrative purposes (assignments via google classroom, google Forms, and quizzes) and saves time. The use of technology also changes students' reactions to learning. As for before using technology, students tend to be lazy, bored, and find it difficult to speak English. However, using various technologies also positively impacts students' understanding because they feel easy, happy, and comfortable.

## References

Aniq, L. N. (2019). Investigating EFL teachers' perceptions on their TPACK development: How EFL teachers view seven domains on TPACK framework. *Leksika: Jurnal Bahasa, Sastra dan Pengajarannya*, *13(2),* 95-101.

Ary, D. J. (2010). *Introduction to research in education* (8th Ed.). Wadsworth: Cengage Learning.

Baser, D. K. (2016). Developing a technological pedagogical content knowledge (TPACK) assessment for English pre-service teachers learning to teach English as a foreign language. *Computer Assisted Language Learning*, *29*(4), 749-764.

Cahyono, B. Y., & Kurnianti, O.D. (2016). Indonesian EFL teachers' application teaching practices. *International Journal of English Language Teaching*, *4*(5), 16-30.

Chin, S., & Hortin, J. A. (1994). Teachers' perceptions of instructional technology and staff development. *Journal of Educational Technology Systems*, *22*(2), 83-98.

Drajati, N., 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

Drajati, N. A. (2021). Investigating the adoption of TPACK-21CL by English pre-service teachers in a COVID-19 teaching practicum. *Indonesian Journal of Applied Linguistics, 11*(1), 124-133. https://doi.org/10.17509/ijal.v11i1.34625

Harris, J., & Hofer, M.J. (2011). Technological pedagogical content knowledge (TPACK) on action: A descriptive study of secondary teachers' curriculum-based, technology-related instructional planning. *Journal of Research on Technology in Education*, *43*(3), 211-229. https://doi.org/10.1080/15391523.2011.10782570

Herring, M. C., Koehler, M.J., & Mishra, P. (eds.). (2016). *Handbook of technological pedagogical content knowledge (TPACK) for educators* (2nd ed.). New York: Routledge.

Hughes, J. (2005). The role of teacher knowledge and learning experiences in forming technology-integrated pedagogy. *Journal of Technology and Teacher Education*, *13*(2), 277–302.

Inpeng, S. (2020). The use of Facebook in a TEFL program based on the TPACK framework. *LEARN Journal : Language Education and Acquisition Research Network Journal*, *13*(2), 369-393.

Koehler, M. J., & Mishra, P. (2005). What happens when teachers design educational technology? The development of technological pedagogical content knowledge. *Journal of Educational Computing Research*, *32*(2), 131-152.

Koehler, M. J., & Mishra, P. (2008). Introducing TPCK. In A. C. (Ed.), *The handbook of technological pedagogical content knowledge (TPCK) for educators* (pp. 3-29). Mahwah, NJ: Lawrence Erlbaum Associates.

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary issues in technology and teacher education*, *9*(1), 60-70.

Koh, J. H. (2015). *Design thinking for education: Conceptions and applications in teaching and learning.* Singapore: Springer. https://doi.org/10.1007/978-981-287-444-3

Koh, J. H. (2016). Teacher professional development for TPACK-21CL: Effects on teacher ICT integration and student outcomes. *Journal of Educational Computing Research, 55*, 172-196. https://doi.org/10.1177/0735633116656848

Mishra, P., & Koehler. M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, *108*(6), 1017–1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x

Mouza, C. N.-K. (2017). A longitudinal examination of pre-service teachers' technological pedagogical content knowledge in the context of undergraduate teacher education. *Action in Teacher Education*, *39*(2), 153-171.

Niess, M.L. (2015). Transforming teachers' knowledge: Learning Trajectories for advancing teacher education for teaching with technology. In: C. Angeli & N. Valanides (eds.), *Technological pedagogical content knowledge* (pp.19-37). Boston, MA: Springer. https://doi.org/10.1007/978-1-4899-8080-9_2

Sari, Y. R. (2021). Enhancing EFL teachers'technological pedagogical content knowledge (TPACK) competence through reflective practice. *TEFLIN Journal*, *32*(1), 117-133. http://dx.doi.org/10.15639/teflinjournal.v32i1/117-133

Shih, C.-L., & Chuang, H.-H. (2013). The development and validation of an instrument for assessing college students' perceptions of faculty knowledge in technology-supported class environments. *Computers & Education*, *63,* 109-118. https://doi.org/10.1016/j.compedu.2012.11.021

Sugiyono. (2014). *Memahami penelitian kualitatif.* Bandung: Alfabeta.

Tan, L. C. (2019). Examining pre-service teachers' knowledge of teaching multimodal literacies: A validation of a TPACK survey. *Educational Media International*, *56*(2), 285-299. https://doi.org/10.1080/09523987.2019.1681110

Tseng, J.-J. (2016). Developing an instrument for assessing technological pedagogical content knowledge as perceived by EFL students. *Computer Assisted Language Learning*, *29*(2), 302–315.

Wang, W. S. (2018). Pre-service teachers' TPACK development: A review of literature. *Journal of Digital Learning in Teacher Education*, *34*(4), 234-258. https://doi.org/10.1080/21532974.2018.1498039

Yurdakul, I. K., Odabasi, H. F., Kilicer, F., Coklar, A. N., Birinci, G., & Kurt, A. A. (2012). The development, validity and reliability of TPACK-deep: A technological pedagogical content knowledge scale. *Computers & Education*, *58*(3), 964–977.