Available Online: https://journals.researchsynergypress.com/index.php/jefltr/index
Journal of English as A Foreign Language Teaching and Research (JEFLTR)
ISSN 2776-4524 (Online) | 2776-4184 (Print)
Volume 2 Number 1 (2022): 34-49

Implementing Self-created Media in Online Teaching by English Pre-service Teacher of English Language Education at Mulawarman University

Widia Anggraeny Suharno[1]
[1]Universitas Mulawarman, Indonesia

Abstract

English pre-service teachers at Mulawarman University had to implement instructional media in online teaching practice. As a result, the researcher was keen on researching the pre-service teacher's experience, difficulties, and the way the-preservice teacher overcame the difficulties in implementing self-created media in online teaching practice. The purposes of this study were (1) To explore the way English pre-service teachers implemented self-created media in online teaching practice; (2) To know the difficulties faced by English pre-service teachers in online teaching practice; (3) To examine the way English pre-service teacher overcame the difficulties in online teaching practice. The design of the study was a qualitative research approach. The research participant was the seventh semester of English pre-service teacher at Mulawarman University. In collecting data, the researcher used interviews, documents, and observation. In analyzing the data, the researcher used Miles, Huberman, & Saldaña's flow model of analysis, which consists of data collection, data condensation, data display, and conclusion drawing and verification. This study showed that the pre-service teacher had to design the lesson plan, design the instructional video, use Google Meet as the platform for synchronous meetings, and implement the lesson plan in online teaching, which included pre-teaching, whilst-teaching, and post-teaching. The difficulties were related to a technical problem and a pedagogical problem. To overcome the difficulties, the pre-service teacher summarized the material during the online meeting and gave it to the students who could not join the class.

Keywords: *Implementing, Self-created, Media, Online, Teaching.*

INTRODUCTION

Nowadays, technology has developed very rapidly in various aspects. Technology in learning refers to the integration of Information, Communication, and Technology (ICT) in the process of everyday classes (Ghavifekr & Rosdy, 2015). Online learning is part of distance education which uses the internet to support the process (Kim, 2020). In addition, online learning could enhance deeper learning because of its independent and student-centered approach (Grieve, Kemp, Norris, & Padgett, 2017).

Online learning requires media to facilitate students in learning. Media refers to a tool the teachers use to deliver the material to the students to be well-organized and easier to understand (Puspitarini & Hanif, 2019). Students should be supported in the use of digital media for learning to obtain new knowledge, communication, and collaboration (Kümmel, Moskaliuk, Cress, & Kimmerle, 2020). Media becomes one of the essential factors that affect students' participation and accomplishment (Ratminingsih & Budasi, 2020). Due to the importance of media, future pre-service teachers should create instructional multimedia. Instructional multimedia refers to the devices and materials which are used in the process of teaching and learning (Ohakamike, 2020). Additionally, Mayer (2009) notes that designing multimedia instruction is always about the designer's knowledge of conception of how the human mind works. In creating instructional multimedia, educators should focus on structure, delivery, and management (An, 2021).

Corresponding Auhtor
wwas1989@gmail.com
DOI: 10.31098/jefltr.v2i1.820

The instructional media offered online is the essential approach to supporting online learning (Alsadhan, Alhomod, & Shafi, 2014). PowerPoint as media was integrated with digital ink in online learning to teach students in tertiary instruction in Hong Kong (Chiu, 2020). A map-guided concept can be used with a problem-posing strategy in a flip classroom to improve students' critical thinking (Hwang, Chang, Song, & Hsieh, 2020). Digital audio media was used to teach in flip classrooms in College English Teaching in China (Li, 2020). In Turkey, students of state universities used Camtasia Studio 8 software to create a video in completing the project by the teacher. (Özüdoğru & Aksu, 2020). Moreover, Filmora can be used to create a message video to enhance the creativity, innovation, and collaborative skills of students in Malaysia (Pereira & Vijayaratnam, 2020). Video can be integrated into face-to-face learning, and it has become an integral part of online courses (Brame, 2016). The short video clip was used in synchronous virtual classes in online teaching (Sepulveda-Escobar & Morrison, 2020).

Furthermore, the English department at Mulawarman University offers several courses to provide skills and knowledge for online teaching, especially in creating instructional multimedia. A computer-based multimedia lesson could improve students' practice, memory performance, and effort in finishing the whole lesson (Huang & Mayer, 2016). To create multimedia instruction, pre-service teachers study PACI and PACIFIC. PACI model stands for PowerPoint, Audacity, Camtasia, and Internet (Limbong, 2016). PACI is learned by students in the third semester. Furthermore, the PACIFIC model is the improvement of PACI. PACIFIC two software were added Filmora and Concept map.

Online teaching using PowerPoint, audio, Camtasia, internet, Filmora, or Concept Map has been discussed by a significant number of researchers from different countries. However, few studies have been explored the way pre-service teachers implement self-created media, the difficulties they face, and the way they solve the problems in the online teaching practice context in Indonesia. Therefore, this study examined how pre-service teachers implemented self-created media, the difficulties the pre-service teacher faced, and how the pre-service solved the difficulties in online teaching practice. Based on the background of the study above, the research objectives were formulated as follows:

1. To explore how English pre-service teachers implement self-created media in online teaching practice.
2. To know the difficulties faced by English pre-service teachers in online teaching practice.
3. To examine how English pre-service teachers overcome the difficulties in online teaching practice.

LITERATURE REVIEW

Definition of Online teaching

Liu (2019) stated that in online teaching, a teacher guides the students to do learning activities through the online platform, the teaching resources primarily from PowerPoint and short videos, and teachers should reflect on the teaching content according to students' reports. Palomares, Pantoja, Pascua, Pfleider, Polintan, Reyes, Rivera, & Ramos (2021) stated that the advantages of online learning are learning accessibility and flexibility (easier access to lessons and the course outline, convenience, and preservation (could be done anywhere and save cost such as transportation), and Engagement. The disadvantages of online learning are questionable integrity and quality of education, limited student-teacher interaction, Work-life imbalance, and insufficiency of logistical and technological resources (Palomares et al., 2021).

Definition of Offline teaching

According to Liu (2019), the offline teaching process is based on classroom teaching, normally includes knowledge of teaching, questioning, and assignment, requires students to learn new knowledge in their free time, students are organized to conduct classroom exercises related to the student's learning, the module is mostly based on teaching activities in the classroom, and teacher has to be in the classroom teaching and responsible for the students' activities. Singh, Rylander, & Mims (2012) added that the number of hours for offline teaching is longer than for online teaching. Aditionally, Sieberer-Nagler (2016) added that teachers should do classroom management in teaching, which includes setting and decorating the classroom, arranging the chairs, talking and giving the students response, and creating and communicating rules to the students.

Definition of Multimedia

A multimedia is a tool that combines various forms of information that consists of graphics, animation, video, and sound (Mayer, 2009). Multimedia video can be used in learning a second language to facilitate learners to explain the meaning of new words (Mayer, Lee, & Peebles, 2014). Graphics used in multimedia lessons can enhance the motivation of the learners to be understandable of the important material and thereby the key to deeper learning processes that carry to expanded learning outcomes (Richard & Estrella, 2014). A computer-based multimedia lesson could improve practice, memory performance, and effort in finishing the whole lesson (Huang & Mayer, 2016). Vial, Nikolic, Ros, Stirling, & Doulai (2015) add that online teaching material using multimedia significantly improves students' performance in learning. Similarly, Wang, Fang, & Gu (2020) find that applying various multimedia for online learning can enhance a cognitive load that indicates the students' high-performance productivity.

Definition of PACIFIC

PACIFIC is a multimedia instruction designed based on the Cognitive of Multimedia Learning. It is a previous extended version of PACI. Audacity, Camtasia, and Internet Literacy (Limbong, 2016). PACIFIC model consists of several computer programs: PowerPoint, Audacity, Camtasia, Internet, Filmora, and C-map.

PowerPoint, software developed by Microsoft, is widely used for presentation and used for teaching and learning activities. In education, teaching and learning by using slide shows on PowerPoint is a common practice to transfer information (Pratami, Fajrillah, & Kusumasari, 2018).

Audacity is free and opened-source audio editing software obtained from http://audacity.sourceforge.net/. Audacity is software used for recording, editing, and examining the audio, a recording, or saved audio file (Jaafar & Daud, 2019).

Camtasia (http://www.techsmith.com/camtasia.html) is software for screen capturing, video editing, and sharing videos created through one application developed by TechSmith Corporation. Camtasia is one of the programs which has a feature to create an online learning platform by adding some elements of text, graphics, audio, video, and animation (Hamzah, Selvan Subramaniam, Hassan, Ariffin, & Nur Kamariah Rubani, 2018).

The Internet is computer network-connected and can be used for all purposes. The internet was used along with a projector and sound amplifier for browsing and streaming BBC Six-Minute English YouTube channel for learning purposes (Alobaid, 2020).

Filmora is a video editing software with various features to create interesting videos (https://filmora.wondershare.com/guide/download-to-uninstall.html.) Filmora helps you create new videos with import, edit, add special effects, transitions, and you can also share your videos on social media, mobile devices, or DVDs (Wondershare, n.d.).

The advantage of using the concept or mind map is primarily based on its design because we can create some ideas or concepts to be learned (González, Requena, & Ariza, 2020). Learning models using mind maps showed a significant impact on students' understanding of the material (Indriani & Mercurian, 2019). Mapping concept was very effective in learning because it is easy to create, has attractive shapes, and has many concepts to be used (Lestari, Jatmiko, Dwikoranto, Prahani, Deta, & Batchiar, Lestari et al., 2019).

Concept mapping (CM) produces a visual representation that demonstrates the ideas, thoughts, and plans of a group of people about a specific problem (Mclinden, 2013). E-mind map combined with an inductive learning model can enhance creative thinking skills (Lazuardini, Wilujeng, & Kuswanto, 2019). The use of a mind map to establish teaching materials can be incredibly beneficial because the mind map gathers organized material (Nurrokhim, Riza, & Rasim, 2019).

RESEARCH METHOD

In this research, the researcher used a qualitative research approach to identify the experiences of an English pre-service teacher in implementing self-created media in online teaching practice. The research design was a case study that aims specifically at gaining a detailed understanding of how the pre-service teacher implemented self-created media, the difficulties she faced, and how she overcame those difficulties in online teaching practice. This qualitative study relied on purposeful sampling because the researcher needed samples that could provide in-depth information about the experiences of the pre-service teacher in implementing self-created media in online teaching practice. The researcher is the main instrument for qualitative research, and the straight data source is the natural setting (Fraenkel & Wallen, 2012). Moreover, in this study, the supplemented instruments used in conducting this study were the interview protocol and audio recorder.

To collect the data, the researcher asked the participant who implemented instructional multimedia during the online teaching practice to participate in this research. Then, the researcher constructed several questions related to how the English pre-service teacher implemented instructional multimedia, the difficulties she faced, and how she overcame the difficulties in online teaching practice. The interview questions were modified from a journal (Endacott, 2016). The researcher used Stimulated Recall Interview (SRI) to recall the English pre-service teacher's memory to observe how she implemented self-created media, the difficulties she faced, and how she overcame the difficulties in online teaching practice. The researcher transcribed the interview result to see a specific outlook related to how the English pre-service teacher implemented self-created media, the difficulties she faced, and how she overcame the difficulties in online teaching practice. In this research, there were three types of documents. The First document was a lesson plan which the pre-service teacher created before she taught. The second document was an instructional multimedia video. The third document was a teaching video when the pre-service teacher was teaching synchronously using Google Meet.

The data were analyzed by using (Miles, Huberman, & Saldaña's (2014) flow. The steps are described in the following procedures: Collecting the date of the interview, lesson plans, instructional video, and video

teaching of the English pre-service teacher. Reading the interview transcript, lesson plan, watched the instructional video, and watched the pre-service teacher teaching video. Analyzing the interview transcript (to look for specific information that related to the pre-service teacher's experience, difficulties, and the way she overcame the difficulties), lesson plan (to see stages and activities in teaching), and watching a teaching video of the pre-service teacher (to see the way she taught during the online synchronous meeting). Writing a summary of the interview transcript (about the pre-service teacher's experiences and difficulties as well as the way pre-service teacher conducted online teaching practice), lesson plan (about the teaching stages and activities that pre-service teacher did in teaching practice), teaching video (about the way she taught in during synchronous online meeting). Constructing codes and notes related to the experience (the stages of teaching and activities in teaching and difficulties) aspects of activities and processes of the pre-service teacher in implementing self-created media in online teaching practice.

The researcher used thematic analysis to find the themes and data patterns. Specifically, the researcher used inductive coding to analyze the data from interviews, observations, and documents. Then, the results of the analysis were tested for reliability and validity triangulation by method to check the validity of the interview transcript by using a document in the form of the lesson plan, multimedia instruction video, and teaching video when the pre-service teacher conducts online teaching.

FINDINGS

Experience

Creating Lesson Plan

In this research, the participant had made lesson plans which included the topic she was going to teach, Analytical Exposition Text. She chose Google Meet as an online platform to support the synchronous meeting. Furthermore, she used self-created media to help her in online teaching. However, in the lesson plans that she had created, she did not write the pedagogical approach she used in online teaching practice.

Creating Instructional Media

The participant in this research designed her own instructional video by obtaining the material from the internet; she used PowerPoint to arrange the template and the material; she chose an interesting template of PowerPoint; she converted the slides of PowerPoint using Camtasia.

> *"First of all, I prepared the material (analytical exposition text), theory, and some examples which I wanted to show on my PowerPoint slides. I looked for the PowerPoint slides (template). I got the template from slide go website. I found interesting and eye-catching templates in order to make the students attracted and not sleepy. Then, I put the theory and material into the PowerPoint slides. Next, I screen recorded by using Camtasia."*

Although the pre-service teacher was assigned to use all of the PACIFIC software, which covers PowerPoint, Audacity, Camtasia, Internet, Filmora, and Concept Map, however, she skipped some software at the end. Arin stated that she did not use Audacity because her instructional video did not contain any narrations (voice). It was only the slides of PowerPoint that she converted to be a video by using Camtasia.

> *"My PowerPoint slides did not use any sound (narration) so, I didn't use Audacity. I only used Camtasia for screen recording."*

Related to the use of Filmora, Arin revealed that she did not use Filmora software due to a device problem. She stated that her laptop did not support the Filmora software. As a result, she skipped the use of Filmora in creating her instructional video.

"Because my laptop did not support Filmora".

Arin also mentioned that she did not use Concept Map software for brainstorming her plans and ideas before creating the instructional media. Instead, she only used a piece of paper to write down all of the ideas, strategies, and materials that she was going to use in online teaching practice.

"I created Concept Mapping by writing my idea on a piece of paper. I wrote what material that I was going to teach, what kinds of texts, whether the text that I used suitably with the material."

In creating the instructional media of PACIFIC, it has to be based on the Cognitive of Multimedia Learning (Limbong, 2016). However, when the participant was asked about the use of the 12 principles of Cognitive Multimedia Learning in creating instructional multimedia, the participant stated that she did not even remember those 12 principles.

"*Hmm (thinking). I don't think so. Probably, there were one or two principles in the video (not sure)."*

The participant did not apply the twelve principles of multimedia presentation due to her lack of knowledge of the Cognitive Theory of Multimedia Learning. Furthermore, Arin stated that she did not use her voice as narration for the instructional video. She only used the slides of PowerPoint, which she converted to be video by using Camtasia. In this case, she had obviously omitted two principles, namely, the Redundancy dan Voice principle. The Redundancy Principle refers to the use of only graphics and narration without text on the screen to avoid visual overload channels (Mayer, 2009). In addition, Mayer (2009) mentioned that the Voice Principle refers to using a real human voice when giving the narration or explanation of the material to create a social response from the learners.

Moreover, she did not use marks, signs, colors, and other symbols to highlight the important keywords in the multimedia presentations as well. In consequence, she undeniably left out the signaling principle. The Signaling Principle is the process of inserting marks, signs, symbols, different colors, flashing, callout, and pointing out essential material to obtain the attention of learners (Mayer, 2009).

Unfortunately, the participant did not use the twelve principles of multimedia as guidance to create well-designed and effective multimedia presentations. Implementing twelve principles to create or design multimedia messages and a cognitive theory of multimedia learning could make multimedia presentations more effective (Mayer, 2009). The multimedia presentation which does not use multimedia principles and contains graphics, text, audio, and content sequencing tends to fail to have a positive effect on learners (Clark & Mayer, 2008).

Self-learning/Asynchronous

Bao (2020) stated that in conducting online teaching, teachers should give two phases of teaching, offline self-learning, and synchronous teaching. In this research, themes regarding self-learning of students have

been placed under technological content knowledge because the pre-service teacher used instructional video to represent the content of English lessons that the students would learn before they joined online synchronous meetings. Technological Content Knowledge (TCK) refers to knowledge in which technologies and content are interrelated and influenced (Mishra & Koehler, 2006). The participant reported that she sent the instructional video through WhatsApp group chat before she and her students conducted synchronous online meetings by using the Google Meet platform. She wanted to let her students have self-learning time. As a result, they would obtain knowledge about analytical exposition text before they joined the synchronous online class.

> *"Before starting an online meeting, I asked the student to read the material about analytical exposition text beforehand. So, they had already had previous knowledge about the material."*

Teaching Stages Using Media

Based on the Minister of Education and Culture Number 4 of 2020 about the online learning regulation, all of the learning systems must be conducted online. In this stage, the researcher would examine how pre-service used the media in the teaching stages by using the TPACK framework based on the online lesson plan and rubric of teaching practice evaluation from Mulawarman University.

a. Pre-teaching

According to the TPACK framework, this stage focuses on the Pedagogical Knowledge aspect. Pedagogical knowledge is knowledge about teaching and learning processes, practices, or methods (Mishra & Koehler, 2006). Moreover, based on the regulation of the Minister of Education and Culture Number 14 of 2019 regarding the online learning regulation, in the pre-teaching stage, teachers should conduct several activities, namely:

1. Praying
   In this research, the pre-service teacher invited her students to pray together at the beginning of online synchronous learning.

2. Checking the Students' Attendance
   Then, she checked the student's attendance by calling the students' names one by one right after she and her students finished praying.

   > *"I took attendance to check a list of students who were supposed to be in the meeting and markdown who was actually present."*

3. Stating Learning Goals
   The third activity that pre-service teachers should do is clearly state learning objectives to students. Unfortunately, Arin did not tell the learning objectives to their students because she only had limited time to teach; as a result, she forgot to tell the learning objectives.

   > *"Oh. I think I skipped it. I forgot. I skipped (to state the learning objectives) because of the time. I have limited time (to teach)."*

4. Telling the Outline of the Lesson
   In this section, the pre-service teacher should tell the materials that the students in the synchronous meeting would learn. However, Arin did not tell her students about the scope of the material they would study, what kinds of activities they would do, and what assignments or projects they would have.

   "I used to mention it. However, it was my last meeting. I did not mention it. When I taught using Google Meet. I used to mention it. However, (that day) I felt nervous as a result I forgot to tell (the students)."

b. Whilst-teaching

1. Literacy

The general content area of the participant was teaching English. However, the participant taught a particular topic, for example, Analytical Exposition Text. To this end, the online teaching tools to help her teach the content area could be classified under Technological Content Knowledge (TCK). Teachers have to know about the content of the course and how the subject could be taught by using particular technology (Mishra & Koehler, 2006). In this section, Arin asked her students to pay attention and observe the material from the instructional video presented on the synchronous platform by using Google Meet's feature, share screen.

2. Critical Thinking

In this section, the Critical Thinking aspect had been placed under Pedagogical Content Knowledge. In online teaching, it is essential for a teacher to understand the students as well as his/her learning context (Eichelberger & Leong, 2019). PCK covers important knowledge of teaching and learning the content based on the curriculum as well giving assessments in the learning (Harris, Mishra, & Koehler, 2009). The pre-service teacher tried to ask her students to identify the material that she presented on the screen. She expected the students to ask questions related to the material. Unfortunately, her students were also being passive because they did not ask any questions; specifically, they were just being silent. As a result, she initiatively asked questions to be answered by the students to know the students' understanding of the material. Unfortunately, only one student wanted to answer the questions given, while the rest did not pay attention to the material.

"I wanted to make sure that (they) paid attention to what I showed. Sometimes, the students just pretended to listen to me but in reality, they did something else (which was not related to the study) because they turn off their camera So, I just wanted to check what they did, whether they paid attention or did something else besides studying"

After the participant showed the topic material to her students, she wanted the students to pay attention to the material and be active in the online learning process. However, all of the students did not properly pay attention to the material. It could be seen that when she let the students ask any question, the students did not ask anything. On the contrary, when the participant asked the students a question, they did not respond quickly. It was not clear whether the students did not ask questions because they already understood the material or did not pay attention. Apparently, it was because the participant was not able to make the students involved in learning; as a result, the students felt bored and ignored the lesson.

3. Collaboration

This section could therefore be classified under Technological Pedagogical Knowledge (TPK). Developing TPK needs an understanding of the possible benefits and limitations of certain techniques which could be applied together with certain types of learning activities to make technologically supported activities perform best (Harris, Mishra, & Koehler, 2009).

However, in fact, the participant did not use any collaborative activities as well as used the platform Google Meet maximumly to support collaborative learning. The students did not actively socialize with others during the synchronous learning. The online learning process was more teacher-centered than student-centered. The students just listened to what the pre-service teacher said or explained.

In fact, the pre-service teacher could not use the media to create collaborative activities that could enhance the students' performance in online teaching. Arin stated that she did not provide the collaborative activities because of the demand of her teaching supervisor.

"Because I was asked by my teaching supervisor, not to used (thinking) any activities. She told me not to include any games. So (the students) should only study. It was a demand from my teaching supervisor."

4. Communication

Online teaching activities or assignments for students which were activity-based could be classified under Technological Pedagogical Knowledge (Eichelberger & Leong, 2019). The participant did not give any opportunities to her students to work together and to do group activities; as a result, the students did not have any opportunities to complete this communication section well.

5. Creativity

At the end of the whilst-teaching stage, the teacher and students should make conclusions about the topic and material they had learned. This section is classified under the reflection of Content Knowledge. Teachers are required to know how the content that they have to teach to the students (Eichelberger & Leong, 2019). From the teaching video, it could be seen that Arin and her students had summarized the material together.

"We discussed the material on that day what we had already discussed. Like summarizing the material. The material that had been learned."

c. Post-teaching

1. Reflection

Technological Pedagogical Content Knowledge refers to the three elements of meaningful and skilled teaching with technology (Mishra & Koehler, 2008). In this section, the pre-service teacher could have reflected on the technology she used to teach the content, the teaching strategy used, and knowing the students' understanding of the content from the students' experience in learning. Arin revealed that she did the reflection by using Google Form.

"Yes, I did. I did it at the end of the meeting. I used to make questionnaires. (thinking) not questionnaire. I mean, I asked the students to fill out the google form. However, it was not related to

the material or the pedagogical aspects. I only asked the students to review. I would like to know their feeling when they study with me."

2. Telling the next topic and praying

In this section, the pre-service teacher should tell students about the next topic that they are going to study in the next synchronous meeting. After that, they should pray before they end the synchronous session. Nevertheless, the participant did not ask her students to pray because she had forgotten. Additionally, she did not tell her students about the following topic and material that the students would learn in the next meeting.

"(thinking) because it was the last meeting. I think I didn't have to state it because, for the next meeting, I would not teach the students. So, I thought I didn't have to tell them (the material). However, I used to tell them (the material)."

Difficulties

Technological Aspect

She stated that internet connection was the main problem in online learning. In Technical problem which disrupts synchronous learning is a part of the Technological Knowledge problem (Eichelberger & Leong, 2019). She explained that she used the Wi-Fi provided by the school where she conducted teaching practice. When conducting online teaching, the school should start synchronous learning from the school. When it was raining, the internet connection was not stable. Not only did Arin experience this, but also her students. In the middle of synchronous learning, sometimes, the students left the Zoom meeting automatically, and they could not rejoin because of the bad internet connection.

"I used Wi-Fi at School. But, if it was raining, the internet connection was unstable. The students also faced the same situation, a bad connection. They automatically left (Google Meet) meeting and they could not join in the meeting again because of the bad internet connection."

Pedagogical Aspect

The second problem in online learning was how the pre-service teacher managed the class in online learning. Arin revealed that because of the lack of Pedagogical Knowledge, she faced difficulty facilitating and guiding her students in synchronous online learning. She stated that her students were not ready to join only learning. She also explained that in the middle of online learning, her students felt sleepy and did not show their enthusiasm for learning. After the researcher watched her teaching video, the researcher found that this participant only talked and explained the material by reading the explanation on the screen that she showed to her students. She did not have any activities that could make students actively and collaboratively involved in online learning. This might happen because the students did not get involved in collaborative activities that could make them actively communicate and discuss the material with their friends or teachers. The students only became passive members of the online learning process. Pedagogical knowledge refers to understanding how students learn, classroom management, panning of the lesson, and creating an assessment for students (Harris, Mishra, & Koehler, 2009). Pedagogical knowledge focuses on creating the awareness of a learning community in a course that would enhance students' experience and performance (Eichelberger & Leong, 2019).

Moreover, she also mentioned her difficulty communicating with her students during online teaching. Due to Covid-19, she had to conduct online teaching. And she had no idea about conducting online teaching properly because that was her first time teaching online. She specifically explained that she could not interact directly with the student without seeing the student in person.

"I got confused. How I conducted teaching without seeing my students in person."

Overcoming the Difficulties

Technological Aspect

The way she overcame this problem was to summarize the material during the online meeting. Then, she gave the material to the students who could not join the online meeting through WhatsApp group chat. She also sent the learning video that they learned in the online meeting to the students who could not enter the meeting so the student could study the material themselves. She also asked the student who joined the online meeting to inform or ask the students who could not join the online class about what material they missed.

"The way in which I overcame the problem was I summarized the material after the meeting. I gave them the summary. I sent the learning video, so they knew what material we had discussed in the (online) meeting. I asked the students who joined the (online) meeting to tell the students who could not join the (online) meeting about the material which she or he missed during the online meeting."

Pedagogical Aspect

Regarding the pedagogical aspect, the participant did not know how to overcome the problem that she had especially related to the technique that could make the students interested in online learning.

DISCUSSION

The present study could shed some light on how the pre-service teacher conducted online teaching practice from the findings. The present study showed the way the pre-service teacher used self-created media to teach online learning. Although previous studies have shown that using instructional media such as PowerPoint, digital audio media, Camtasia, and video learning in online teaching could enhance the students' performance (Chiu, 2020; Li, 2020; Ou et al., 2019; Özüdoğru & Aksu, 2020) however, in this research the use of instructional media did not affect the performance of the students because the pre-service teacher was lack of pedagogical technological content knowledge.

The pre-service teacher faced some challenges during online teaching practice, which included the technical problem and the pedagogical problem. The first problem faced by the participant was internet connection which refers to the technological aspect. The result supports the previous study, which showed that internet connection was the main problem students and teachers face in online learning (Dong, 2020; Sepulveda-Escobar & Morrison, 2020).

Another challenge refers to the pedagogical aspect. This happened because the pre-service teacher did not understand some activities and approaches which should have been done in online learning and teaching. The result shares similarities with the previous study, which presented that the lack of prior

experience in online teaching, as well as the lack of preparation by the teacher, could cause students' less participation and interaction (Dong, 2020; Sepulveda-Escobar & Morrison, 2020).

The solution to the technological knowledge that she faced was to summarize the material explained in the online meeting and convey it to students via group chat. However, in the pedagogical aspect, the way the pre-service teacher overcame the difficulties did not support the previous study that focused on communication and interaction between students and teachers (Dong, 2020; Giri & Dutta, 2021).

CONCLUSION

Derived from the research finding and discussion, it showed that the pre-service was assigned to create instructional multimedia of PACIFIC, which is based on the Cognitive Theory of Multimedia Learning in online teaching practice. However, she ended up creating self-created video instruction because she left out some software, namely, Audacity, Filmora, and Concept Map. However, the participant did not create the video instruction based on the twelve principles of multimedia due to her insufficient knowledge of the Cognitive Theory of Multimedia. She created the video based on the specific Analytical Exposition Text in creating instructional learning videos. The participant used Google Meet as the platform to conduct the synchronous meeting. Moreover, she also used WhatsApp group chat as a part of asynchronous learning.

In conducting the teaching practice, the pre-service teacher did not properly follow the online lesson plan stages and activities. For instance, in the pre-teaching section, the participant did not follow the right procedure, such as stating the learning goals and telling the material to the students. In the Whilst-teaching stage, the participant did not know how to address the aspect of literacy, critical thinking, collaboration, communication, and creativity. Furthermore, the learning system was still based on teacher-centered, not student-centered.

In the post-teaching stage, the pre-service teacher was required to reflect on the students' experience in learning which focuses on the technology they used to teach the content, the teaching strategy they used, and knowing the students' understanding of the content from the students' experience in learning. However, the pre-service teacher only asked the students to fill the questionnaire in Google Form about their feeling when the pre-service teacher taught in their class. Furthermore, the pre-service teacher did not close the meeting section with praying at the end of the section. Overall, the knowledge of pre-service teachers in online teaching was still lacking. There are eleven activities in pre-teaching, whilst-teaching, and post-teaching however, the pre-service teacher only did five activities. As a result, she did not follow and do several aspects in conducting online teaching practice.

In conducting online teaching, the pre-service teacher faced several difficulties related to the technical problem followed by the pedagogical problem. The technical problem was internet connections, and the pedagogical problem was related to the knowledge of the pre-service teacher is facing the students' behavior in online teaching.

To overcome the difficulties, the pre-service teacher summarized the material from the synchronous meeting and sent it to the students who could not join the meeting because of the internet connection through the WhatsApp group.

Limitations & Further Research

This research has a limitation; in this research, the researcher did observation by watching a teaching video when the pre-service teacher taught during an online teaching practice examination. The researcher feels that in doing the observation, she cannot capture all of the moments when the pre-service teacher teaching in online teaching practice. Future research is suggested to do the observation by joining the online class for several meetings to be able to see all the moments during the teaching and learning processes. Limitations of this study should be noted. The criteria for selecting the participants could not represent the participant. Future researchers should select the participants based on the specific criteria for their studies. This research can be used as a reference for English pre-service teachers at Mulawarman University and other researchers willing to do similar research by applying instructional multimedia in online teaching practice or online learning.

REFERENCES

A copy of the regulation of the Ministry of Education and Culture No. 4 year of 2020

Alobaid, A. (2020). Smart multimedia learning of ICT: role and impact on language learners' writing fluency— YouTube online English learning resources as an example. *Smart Learning Environments*, *7*(24), 1–30. https://doi.org/10.1186/s40561-020-00134-7

Alsadhan, A. O., Alhomod, S., & Shafi, M. M. (2014). Multimedia Based E-learning: Design and Integration of Multimedia Content in E-learning. *International Journal of Emerging Technologies in Learning (IJET)*, *9*(3), 26–30. https://doi.org/10.3991/ijet.v9i3.3308

An, Y. (2021). A history of instructional media, instructional design, and theories. *International Journal of Technology in Education (IJTE)*, *4*(1), 1–21. https://doi.org/10.46328/ijte.35

Bao, W. (2020). COVID -19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, *2*(2), 113–115. https://doi.org/10.1002/hbe2.191

Brame, C. J. (2016). Effective Educational Videos: Principles and Guidelines for Maximizing Student Learning from Video Content. *Life Sciences Education*, *15*(4), 1–6. https://doi.org/10.1187/cbe.16-03-0125

Chiu, W. K. (2020). Implications for the Use of PowerPoint, Classroom Response Systems, Teams, and Whiteboard to Enhance Online Teaching of Chemistry Subjects in Community College. *Journal of Chemical Education*, *97*(9), 3135–3139. https://doi.org/10.1021/acs.jchemed.0c00830

Clark, V. L. P., & Creswell, J. W. (2014). *Understanding Research A Consumer's Guide (2nd ed.).* Pearson Education.

Dong, J. (2020). Online Learning and Teaching Experiences During the COVID-19 Pandemic: A Case Study of Bangladeshi Students Receiving China's Higher Education. *English Linguistics Research*, 9(2), 37. https://doi.org/10.5430/elr.v9n2p37

Eichelberger, A., & Leong, P. (2019). Using TPACK as a Framework to Study the Influence of College Faculty's Beliefs on Online Teaching. *Educational Media International*, *56*(2), 116–133. https://doi.org/10.1080/09523987.2019.1614246

Endacott, J. L. (2016). Using Video-Stimulated Recall to Enhance Preservice-Teacher Reflection. *New Educator*, 12(1), 28–47. https://doi.org/10.1080/1547688X.2015.1113351

Fraenkel, J. R., Wallen, N. E. (2012). *How to design and evaluate research in education (8th ed.)*. New York: McGraw-Hill.

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. https://doi.org/10.21890/ijres.23596

Giri, S., & Dutta, P. (2021). Identifying Challenges and Opportunities in Teaching Chemistry Online in India amid COVID-19. *Journal of Chemical Education*, *98*(2), 694–699. https://doi.org/10.1021/acs.jchemed.0c00720

González, J. M. M., Requena, B. E. S., & Ariza, M. D. H. (2020). Difficulties and Expectations of Future Education Professionals in the Learning of the Mind Map. *Mind, Brain, and Education*, *14*(4), 341–350. https://doi.org/10.1111/mbe.12258

Grieve, R., Kemp, N., Norris, K., & Padgett, C. R. (2017). Push or pull? Unpacking the social compensation hypothesis of Internet use in an educational context. *Computers and Education*, *109*, 1–10. https://doi.org/10.1016/j.compedu.2017.02.008

Hamzah, N., Selvan Subramaniam, T., Hassan, N., Ariffin, A., & Nur Kamariah Rubani, S. (2018). Development of Central Processing Unit Teaching Using Web-Based Learning. *Journal of Physics: Conference Series*, *1049*(1), 1–6. https://doi.org/10.1088/1742-6596/1049/1/012052

Harris, J., Mishra, P., & Koehler, M. (2009). Teachers' Technological Pedagogical Content Knowledge and Learning Activity Types: Curriculum-based Technology Integration Reframed. *Journal of Research on Technology in Education*, *41*(4), 393–416. https://doi.org/10.1080/15391523.2009.10782536

Huang, X., & Mayer, R. E. (2016). Benefits of adding anxiety-reducing features to a computer-based multimedia lesson on statistics. *Computers in Human Behavior*, *63*, 293–303. https://doi.org/10.1016/j.chb.2016.05.034

Hwang, G., Chang, S., Song, Y., & Hsieh, M. (2020). Powering up Flipped Learning: An Online Learning Environment with a Concept Map-guided Problem-posing Strategy. *Computer Assisted Learning*, 1–17. https://doi.org/10.1111/jcal.12499

Indriani, D., & Mercurian, I. S. (2019). The Effectiveness of Experiential Learning Model by Using Mind Map to the Understanding of Concepts on Fungi Materials at the Tenth-grade Students of Senior High School. *Journal of Physics Conference Series*, 1–6. https://doi.org/10.1088/1742-6596/1567/4/042081

Jaafar, R., & Daud, A. N. M. (2019). In-one Resonance Tube with Audacity Software. *Journal of Physics Conference Series*, 1–7. https://doi.org/10.1088/1742-6596/1185/1/012132

Kim, J. (2020). Learning and Teaching Online During Covid - 19: Experiences of Student Teachers in an Early Childhood Education Practicum. *International Journal of Early Childhood*, 1–17. Retrieved from https://doi.org/10.1007/s13158-020-00272-6

Kümmel, E., Moskaliuk, J., Cress, U., & Kimmerle, J. (2020). Digital Learning Environments in Higher Education: A Literature Review of the Role of Individual vs. Social Settings for Measuring Learning Outcomes. *Education Sciences*, 10 (78), 1-19. doi:10.3390/educsci10030078

Lazuardini, D. A., Wilujeng, I., & Kuswanto, H. (2019). Optimizing Senior High School Students Creative Thinking Skills of Optical Devices through Inductive Learning Models Assisted by e-Mind Map. *International Seminar on Science Education*, 1–11. https://doi.org/10.1088/1742-6596/1233/1/012029

Lestari, N. A., Jatmiko, B., Dwikoranto, Prahani, B. K., Deta, U. A., & Batchiar, R. W. (2019). Pre-service Physics Teachers Perception about Concept Map, Mind map, and Link Map for Innovative Learning. *Journal of Physics Conference Series*, 1–6. https://doi.org/10.1088/1742-6596/1417/1/012092

Li, X. Y. (2020). Application of Digital Audio Media in English Teaching. *Journal of Physics: Conference Series*, *1533*(2), 1–6. https://doi.org/10.1088/1742-6596/1533/2/022020

Limbong, E. (2016). The Voices of Preservice EFL Teachers on the Implementation of Teacher Educators' Flipped Classroom in Designing and Developing PACI Model. *Indonesian Journal of English Education*, *3*(2), 171–191. https://doi.org/http://dx.doi.org/10.15408/ijee.v3i2.5511

Liu, P. (2019). Research on online and offline "mixed" teaching mode in colleges and universities. *International Conference on Informatization in Education, Management and Business*, (IEMB), 301–306. https://doi.org/10.2991/aermt-19.2019.70

Mayer, R. E. (2009). *Multimedia learning (2nd ed.)*. New York: Cambridge University Press.

Mayer, R. E., & Estrella, G. (2014). Benefits of emotional design in multimedia instruction. *Learning and Instruction*, *33*, 12–18. https://doi.org/10.1016/j.learninstruc.2014.02.004

Mayer, R. E., Lee, H., & Peebles, A. (2014). Multimedia Learning in a Second Language : A Cognitive Load Perspective. *Applied Cognitive Psychology*, *28*, 653–660. https://doi.org/10.1002/acp.3050

Mclinden, D. (2013). Concept Maps as Network Data: Analysis of a Concept Map Using the Methods of Social Network Analysis. *Evaluation and Program Planning*, *36*, 40–48. https://doi.org/http://dx.doi.org/10.1016/j.evalprogplan.2012.05.001

Miles, M. B., Huberman, M, A., & Saldaña, J. (2014). *Qualitative data analysis: a methods sourcebook (3rd ed.)*. Thousand Oaks, CA: Sage Publications.

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

Mishra, P., & Koehler, M. J. (2008). Technological Pedagogical Content Knowledge. *The Language of Science Education*, *9*, 1–16. https://doi.org/10.1007/978-94-6209-497-0_95

Nurrokhim, M. F., Riza, L. S., & Rasim. (2019). Generating Mind Map from an Article Using Machine Learning. *Journal of Physics: Conference Series*, *1280*(3), 1–5. https://doi.org/10.1088/1742-6596/1280/3/032023

Ohakamike, O. N. (2020). Use of Instructional Media as Determinant of students' Achievement and attitude in English Language. *International Journal of English Language and Linguistics Research*, *8*(2), 76–90.

Ou, C., Joyner, D. A., & Goel, A. K. (2019). Designing and Developing Video Lessons for Online Learning: A Seven-principle Model. *Online Learning Journal*, *23*(2), 82–104. https://doi.org/10.24059/olj.v23i2.1449

Özüdoğru, M., & Aksu, M. (2020). Pre-service Teachers' Achievement and Perceptions of the Classroom Environment in Flipped Learning and Traditional Instruction Classes. *Australasian Journal of Educational Technology*, *36*(4), 27–43. https://doi.org/https://doi.org/10.14742/ajet.5115

Palomares, H. R. G., Pantoja, P. P. M., Pascua, K. E., Pfleider, A. L. D., Polintan, A. N. T., Reyes, R. M. D., & Ramos, R. P. (2021). A case study on the perspectives of University of Santo Tomas pharmacy professors on the influence of online classes in pharmacy education. *Pharmacy Education*, *21*, 759–770. https://doi.org/10.46542/pe.2021.211.759770

Pereira, E. A., & Vijayaratnam, P. A. (2020). the Potentials of Work-Based Learning at University: a Case Study Among Pre-University Students. *International Journal of Education and Pedagogy*, *2*(1), 13–21.

Pratami, D., Fajrillah, A. N., & Kusumasari, T. (2018). Content Visualization: An Evaluation of PowerPoint Effectiveness as a Learning Tool for Students. *International Journal of Engineering & Technology*, *7*(2.29), 840–844. https://doi.org/10.14419/ijet.v7i2.29.14268

Puspitarini, Y. D., & Hanif, M. (2019). Using Learning Media to Increase Learning Motivation in Elementary School. *Anatolian Journal of Education*, *4*(2), 53–60. https://doi.org/10.29333/aje.2019.426a

Ratminingsih, N. M., & Budasi, I. G. (2020). Printed Media Versus Digital Media: Which One is More Effective? *Advances in Social Science, Education and Humanities Research*, *394*, 49–55. https://doi.org/10.2991/assehr.k.200115.009

Sepulveda-Escobar, P., & Morrison, A. (2020). Online teaching placement during the COVID-19 pandemic in Chile: challenges and opportunities. *European Journal of Teacher Education*, *43*(4), 587–607. https://doi.org/10.1080/02619768.2020.1820981

Sieberer-Nagler, K. (2015). Effective Classroom-Management & Positive Teaching. *English Language Teaching*, *9*(1), 163. https://doi.org/10.5539/elt.v9n1p163

Singh, S., Rylander, D. H., & Mims, T. C. (2012). *Efficiency of Online vs. Offline Learning: A Comparison of Inputs and Outcomes*. *2*(1), 93–98.

Vial, P. J., Nikolic, S., Ros, M., Stirling, D., & Doulai, P. (2015). Using Online and Multimedia Resources to Enhance the Student Learning Experience in a Telecommunications Laboratory Within an Australian University. *Australasian Journal of Engineering Education*, *20*(1), 71–80. https://doi.org/10.7158/D13-006.2015.20.1

Wang, C., Fang, T., & Gu, Y. (2020). Learning Performance and Behavioral Patterns of Online Collaborative Learning: Impact of Cognitive Load and Affordances of Different Multimedia. *Computers and Education*, *143*(5), 103683. https://doi.org/10.1016/j.compedu.2019.103683

Wondershare. (n.d.). Filmora User Guide for Windows: A guide to using Filmora Video Editor. Retrieved from March 17, 2018 website: https://filmora.wondershare.com/guide/download-to-uninstall.html