

Lampung Language Online Learning during the Covid-19 Outbreak: How are the Teacher's TPACK Skills?

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**Lampung Language Online Learning during the Covid-19 Outbreak: How are the Teacher's TPACK Skills?****Farida Ariyani**Assoc. Prof., University of Lampung, Indonesia, farida.ariyani@kip.unila.ac.id**Muhammad Fuad**Assoc. Prof., University of Lampung, Indonesia, abuazisah59@yahoo.co.id**Edi Suyanto**Assoc. Prof., University of Lampung, Indonesia, edisuyanto1963@gmail.com**Ulul Azmi Muhammad**Doctoral Student, University of Lampung, Indonesia, spartauam.20@gmail.com

The implementation of online learning at the beginning of the covid-19 outbreak brought up some interference for most teachers and students. Technological Pedagogical Content Knowledge (TPACK) is thought to be the answer for teachers in dealing with current online learning problems. This study aims to explore the TPACK skills of Lampung language teachers and the advantages and problems of online Lampung language classes. A survey method was employed to conduct this study in which a questionnaire consisting of 33 statements and 5 open-ended questions was administered to 138 Lampung language teachers in Lampung, Indonesia. The data were analyzed quantitatively and qualitatively by using factor analysis and the descriptions of teacher explanations. The results showed that Lampung language teachers, in general, have mastered TPACK in their online classes such as the use of various learning media and educational platforms. Giving assignments in creative forms such as making videos of folk songs during the learning process amid the pandemic using local languages can be used by Lampung language teachers to create non-boring learning. This study provides an overview of Lampung language teachers' TPACK skills and some information related to the problems and advantages faced in online Lampung language learning during the covid-19 pandemic. As a consequence, it can be the reference for policymakers to make the best Lampung language learning system.

Keywords: covid-19, Lampung language teacher, learning platforms, online learning, TPACK

INTRODUCTION

The transition of emergency remote teaching as a new policy in education from the end of 2019 to early 2022 was undertaken by most schools in Indonesia as a response to the

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90 outbreak of Coronavirus Disease (COVID-19) (Usak et al., 2020). It does not occur gradually but overnight. This is different from the past when emergency remote teaching was introduced in distance courses or online support for standard courses so that previously, all related parties and infrastructure had been well prepared. Teachers must be fought off a situation overnight where they have to start emergency remote teaching with a lot of improvisations, a situation introduced by Virtič et al. (2021) as “Forced Online Distant Learning (FODL)”. The government’s policy of carrying out physical distancing and large-scale social restrictions (LSSR) made the entire school system be suspended and teaching activities be shifted online. This was done regardless of the pedagogical and material readiness of students, teachers, and teaching staff. This transition. This FODL requires teachers to act innovatively and think differently, at least at the personal level of educational provision (Lei & Medwell, 2021).

70 The transition in education to an online environment becomes a new challenge for teachers and students (Gomez, 2022; Murphy, 2020). They must quickly adapt to this new environment. Many new problems related to the emergency remote learning implementation (infrastructure and teachers and students’ readiness as the parties involved) have emerged (Arifianto et al., 2021; Saboowala & Manghirmalani-Mishra, 2021). Teachers’ short and massive mastery of technology, as well as teachers’ unlimited time allocation and the sudden preparation of infrastructure and facilities by students and schools, are examples of problems that make emergency remote learning not run optimally.

28 The preparation of teachers to work in extensive environments seems to be more important than before as the world fights off the recently global COVID-19 outbreak. The teacher is a role model for students because they are one of the important factors in education, so their figure has a big effect on influencing the students’ academic achievement, personality development, and attitude (Paidi et al., 2021). The teachers’ adaptation to facing emergency remote learning requires the ability to master technology. Teachers need to discover a new idea in controlling emergency remote learning to create meaningful and interesting learning through technology integration. Some studies revealed that teachers have difficulty integrating technology and delivering material meaningfully in their online classes (Donnelly & Hume, 2015; Lee & Martin, 2017; Saido et al., 2015). Technological integration is an effective way for information and communication technology and appropriate educational technological application to achieve the desired learning outcomes (Fuadi et al., 2021; Jaya & Suparman, 2021; Rahmadi, 2021). In addition, the current quality teachers must master pedagogical and didactic skills in subjects. They also have to master technology and connect it to learning starting from the plan, organization, and implementation to learning evaluation, students’ learning support, and development (Prior et al., 2016).

The Lampung language subject is one of the local subjects only taught in the Lampung area. However, it should not be taken for granted. The Lampung language class has a characteristic that requires a lot of practice regarding regional elements. Regional elements of the Lampung language are related to the expressions and words in which every regional location in Lampung Province is different. As a consequence, it causes

problems for teachers in which the teachers have difficulty explaining learning material to students because it is not easy to make sure they understand the material being explained (Lestiyawanati & Widyantoro, 2020; Net et al., 2021). Teachers find it difficult to control the writing sources for the students or their honesty in conducting assignments. The use of one medium repeatedly by the teacher causes students to feel not interested and bored in being involved in the next online class (Prior et al., 2016; Suparman et al., 2021). Therefore, Lampung language teachers must be able to anticipate learning by creating fun and “new” learning by integrating technology.

Ready or not, students and teachers have to adapt to work and study online considering the COVID-19 pandemic that directly and permanently changes future education. Teachers have to adapt quickly by conducting emergency remote learning. This adaptation is able to be carried out by improving the teachers’ TPACK skills and their skills to use online learning technology (Chu & Chu, 2010; Ng, 2012). The purpose of this study is to explore Lampung language teachers’ TPACK skills to carry out emergency remote learning during the COVID-19 pandemic. This study finds out the answers to the following questions:

- 1) What technologies are used in Lampung language online learning?
- 2) How are the Lampung language teachers’ TPACK skills?
- 3) What advantages and problems do Lampung language teachers face during online learning?

In this study, the authors try to describe the use of online learning technology for the Lampung language, the current TPACK skills of Lampung language teachers, and the advantages and problems encountered by emergency remote learning. It is hoped that this research will provide an overview of Lampung language teachers’ TPACK skills and some information related to the problems and advantages faced in emergency remote Lampung language learning for teachers and policymakers to create a better learning system.

Literature Review

TPACK

The theoretical framework of technology, pedagogy, and content knowledge (TPACK) is supported by Shulman (1986) of pedagogical content knowledge (PCK) that effective teaching skills are formed from pedagogical knowledge (PK) and content knowledge (CK) which are interrelated. The interrelationships of aspects such as teachers’ understanding of the subjects studied, teaching methods, knowledge of ICT, and knowledge of how to incorporate technology into their instruction are considered the basis of the TPACK framework. TPACK was initiated by Koehler dan Mishra (2009) where pre-service teacher education must pay attention to the use of technology and examine how technological knowledge is integrated into CK and PK. The seven TPACK factors, according to Koehler and Mishra (2009), include content knowledge, pedagogical knowledge, pedagogical content knowledge, technology knowledge, technological content knowledge, technological pedagogical knowledge, and technology, pedagogy, and content knowledge.

Technology is considered to have an important role in teachers' delivery of innovative learning. However, most teachers have difficulty integrating technology into their classroom. TPACK is a solution to this problem where TPACK skills can help teachers connect technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK) (Koehler & Mishra, 2005, 2006). TPACK provides information on how teachers model and integrate technology, pedagogical knowledge, and content into innovative learning. This design is a challenge that drives teachers to integrate TPACK and can influence teachers to change their technological pedagogical practices (Chai et al., 2013; Koh et al., 2010; Koh & Chai, 2016; Nuangchalerm, 2020). Through TK, the teacher can appropriately and efficiently use various digital facilities to identify, integrate, manage, and evaluate meaningful learning needs (Fahadi & Khan, 2022; Kartimi et al., 2021; Şimşek & Tuğluk, 2021; Suprpto et al., 2021).

Online learning

Online learning is defined as a learning experience delivered synchronously or asynchronously employing different devices with Internet access (Dhawan, 2020). In this environment, students are able to be anywhere (independent) to interact and learn with their teachers and peers (Singh & Thurman, 2019). Synchronous learning allows students and teachers to communicate with each other in real-time with the possibility of instant feedback. It is able to provide many opportunities for social communication via teleconferences such as Zoom, Skype, and Google Meet. Asynchronous classes, in comparison, allow students to fill assignments from anywhere with access to the Internet within flexible time parameters, e.g., in a week (Plaisance, 2018). Learning Management System (LMS) applications such as Moodle, Schoology, and Google Classroom are usually employed for asynchronous learning. Furthermore, a careful and balanced combination of synchronous and asynchronous learning is attractive to students as it makes online learning flexible (Moorhouse, 2020; Plaisance, 2018).

In selecting an online learning platform, several criteria must be considered based on the COVID-19 pandemic requiring all learning to be online. The criteria are (1) being connected with the teacher and at least 50 other students concurrently through interactive videoconference, (2) providing discussion for the teacher in online classes to make the teaching process more organic and realistic, (3) recording and uploading the stream for students who do not have a high-speed Internet connection, (4) making online classes accessible by PC and mobile phones, (5) providing an option to re-watch learning recordings with rewind capability, and (6) enabling students to complete/submit homework, quizzes, and online tests (Basilaia et al., 2020).

METHOD

Research design

A survey method with a quantitative and qualitative approach was employed as a research design in this study. This research was carried out through five stages, namely introduction, instrument development, survey implementation in Lampung Province, data analysis and synthesis, and reporting (Gall et al., 1984).

Participants

In this study, the participants were Lampung language teachers in Lampung province, Indonesia. To select the participants, random sampling was employed through the distribution of the Google Form questionnaire link. The questionnaire was administered to Lampung language teachers at elementary school, junior high school, senior high school, and vocational high school, both public school and private school. A total of 138 Lampung language teachers welcomed this research. The demographics of the participants are shown in Table 1.

Table 1
Characteristics of respondents' socio-demographic

Demographics Variable	N	%
Gender		
Male	115	83.3
Female	23	16.7
Education		
BA	112	81.2
PPG (Teacher Professionalism Training Program)	4	2.9
MA	22	15.9
Level		
Elementary School	27	19.6
Junior High School	95	68.8
Senior High School	13	9.4
Vocational High School	3	2.2
School of teaching		
Public	112	81.2
Private	26	18.8

Data collection tools

The questionnaire used in this research consisted of 49 close statements and 5 open statements. The close statements were adopted by the results of the questionnaire development conducted by Schmidt et al. (2009). Meanwhile, the open statements related to the TPACK of Lampung Language teachers and their suggestions for implementing learning during the COVID-19 outbreak were adopted from the literature and previous research carried out by Fuad, Ariyani, et al. (2020), Knutsson et al. (2012), Prior et al. (2016), and Shulman (1986).

Data analysis

Close statements in the questionnaire were analyzed quantitatively in which the quantitative data as described in the frequency distribution and percentage and presented in the bar chart. In addition, the quantitative data containing the TPACK components was analyzed by using Spearman correlation and factor analysis which these analyses were used to justify the reliability and validity of statements in the questionnaire (Taylor, 1990). Meanwhile, open statements in the questionnaire were analyzed qualitatively in which the qualitative data was reduced to get representative themes, then the themes were presented in Table and withdrawn from the conclusion.

FINDINGS

The technology used in Lampung language online learning 25

The online class conducted by the Lampung language teacher during the COVID-19 pandemic was greatly assisted by Internet access and technology such as platforms, applications, and media which are able to be employed by teachers in explaining skills and teaching materials to students, specifically Lampung language material. The data of the survey revealed the media employed by Lampung language teachers during online learning. Figure 1 shows 14 types of learning platforms, applications, and media employed by them. Almost half of the Lampung language teachers who volunteered to be respondents in this study stated that Google Classroom was the dominant platform used to deliver material and give assignments. In addition, WhatsApp was the second type of media used because of its ease of use. For teleconference media, Zoom Meeting was chosen to interact directly in real-time with the students.

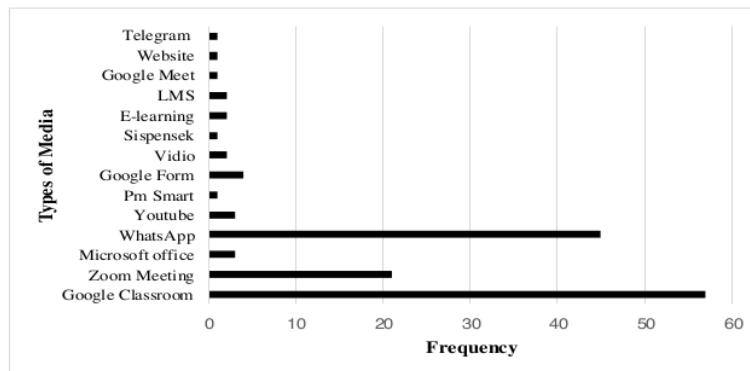


Figure 1
Technology-based media used in online learning

A qualified platform like Sispensek with various advantages is less attractive to Lampung language teachers. In Sispensek, teachers can monitor and measure student attitudes during learning and recap the results of assignments easily through Excel output. This lack of interest is because Sispensek must have an account which is usually provided by the school. Meanwhile, not every school facilitates this platform. Of the fourteen types of media, only some types of familiar media are often used while other media are still rarely used by most Lampung language teachers.

TPACK skills of Lampung language teachers 46

The results of the Lampung language teachers' TPACK on online learning are shown in Figure 2. Of the seven variables measured, content knowledge, pedagogical knowledge, and content pedagogical knowledge have the most positive tendency. This indicates that teachers generally master the materials and skills of the Lampung language in creating an effective teaching and learning environment. Meanwhile, the variables that contain

technology such as technological knowledge, knowledge of technology content, knowledge of technology pedagogy, and TPACK still require skill development. (Strongly Agree < 16% of Lampung language teachers). In online learning, technology has an important role; it requires fast handling. Current and future education is no longer the same as it was before the pandemic spread. Digital literacy must be mastered by teachers to face the challenges of changes in the current and future education system.

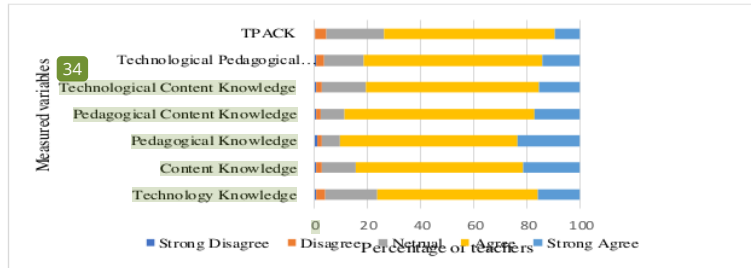


Figure 2
The trend of the variable ability of teachers' TPACK

There were 33 statements in the questionnaire distributed to Lampung language teachers. Appendix A shows that the results of Cronbach's Alpha reliability measurement for all indicators were more than 0,7 which means that all statements on the indicators have good reliability. In general, the results of the measurement of loading factor and communality were more than 0,5 which interprets that the questionnaire items represent the measured factors. The correlation test results among factors are shown in Table 2. Based on the correlation results, each variable has a positive correlation with the other. Generally, the coefficients of correlation among factors were more than 0,5 which interprets that each factor commonly correlates and supports each other for TPACK.

Table 2
Correlation of TPACK components

	TK	CK	PK	PCK	TCK	TPK	TPACK
TK	1	0,614	0,606	0,553	0,703	0,690	0,659
CK	0,614	1	0,767	0,710	0,672	0,655	0,668
PK	0,606	0,767	1	0,787	0,695	0,633	0,632
PCK	0,533	0,710	0,787	1	0,685	0,703	0,638
TCK	0,703	0,673	0,695	0,685	1	0,812	0,843
TPK	0,690	0,655	0,633	0,703	0,812	1	0,811
TPACK	0,659	0,668	0,632	0,638	0,843	0,811	1

Problems and advantages of Lampung language teachers in online learning

From the open statements of the questionnaire distributed to Lampung language teachers, the data related to problems and opportunities faced in online learning during the outbreak were obtained. The responses of teachers regarding the problems and

advantages were reduced to generate some representative themes and the results of these themes are shown in Table 3.

Table 3
Problems and advantages in Lampung language online learning

Characteristic	Lampung Language Teachers' Responses
Problems	<ol style="list-style-type: none"> 1. The teachers' ability to master materials and technology must be balanced; otherwise, it will affect the quality of online classes. It aims to create credible and interesting online classes. 2. Teachers cannot directly know the level of difficulty experienced by their students. This also affects the measurement of student character. Teachers have difficulty measuring student achievement objectively. 3. Students are lazy to think and feel bored doing many assignments. 4. Many materials are not delivered completely due to limited time. 5. Parents have a lack of understanding in guiding their children's learning at home when they do not understand the material and assignments given by the teacher.
Advantages	<ol style="list-style-type: none"> 1. Online learning allows students to explore their learning styles and learning techniques that are flexible in time and place, and make them more comfortable in learning. 2. Indirectly, online learning has a major influence on teachers to improve their competencies to create effective and efficient learning during the pandemic, especially in the use of technology. 3. It is easy for teachers to check or review assignments/practices and students' daily test results. 4. Students become smarter in utilizing technology properly because of the demands of education during the COVID-19 pandemic. 5. Students are trained for time discipline in doing assignments. Students have more sense of responsibility towards the given task.

DISCUSSION

The online learning during the COVID-19 outbreak made teachers, especially Lampung language teachers use technologies such as learning media and online platforms to help deliver materials and assignments. Based on the Lampung language teachers' responses, the selection of learning media in their class was based on several reasons. The main reason is the ease of access and use of media. Teachers think they spend a lot of time learning how to use media/platforms. For example, developing or delivering subject matter distracts the teaching activity itself. This is especially true for senior teachers where digital literacy skills are not as good as those of younger teachers (Fuad, Ariyani, et al., 2020; Prior et al., 2016). As shown in Figure 1, three favorite media for teachers are Google Classroom, WhatsApp, and Zoom Meeting, which are the most familiar to them. They are also favorite choices for online learning of the Indonesian language (Fuad, Ariyani, et al., 2020), chemistry (Kartimi et al., 2021), and biology (Juandri et al., 2021). In practice, some teachers also use other types of media/platforms so that students do not get bored and continue to wait for some surprises in the next lesson. In addition to media variations, materials and assignments were provided by teachers using videos uploaded to social media, such as YouTube. It also aims to make students feel challenged and interested in developing their own creations. A large number of studies in various fields have explored the importance of social media in shaping and reflecting the attitudes, behavior, and experiences of adolescents (Literat, 2021; Way & Redden, 2017). Through social media, students can also express their imagination and creativity (Wargo, 2017).

Another fact obtained from the survey results is that the media/platforms that are quite effective are still rarely used by teachers because they are not familiar with or are not given access to use them. Their school does not provide such educational platform facilities. On the other hand, the Indonesian government is currently focusing on building infrastructure, such as strengthening online platforms (SPADA), bandwidth, and servers, as well as national webinar platforms (behavior and Cloud), and preparing Indonesia Cyber Education (ICE). The initiatives of the government during the COVID-19 pandemic reveal that they have paid attention to education in Indonesia (Padma et al., 2020; Salehudin et al., 2021). With the government's support, it is hoped that infrastructure can be well distributed in all regions in Indonesia so that the quality of teachers in preparing online classes can be maintained. Teachers should pay more attention to the types of media that support social interaction and collaboration for use in the classroom. Both aspects play an important role in providing an effective distance learning environment (Thoms & Eryilmaz, 2014). By facilitating a basic understanding of students' experiences and perceptions (their preferred way of expression), teachers will find it easier to teach and provide meaningful learning (Literat, 2021).

Another factor that determines the effectiveness of online learning is the ability of teachers to combine knowledge of content, pedagogy, and technology, often referred to as TPACK. The seven components of the Lampung language teacher's TPACK analyzed (Figure 2) show that they have mastered the Lampung language material and skills in creating an effective classroom environment. Indeed, of the three components (PK, CK, and PCK), the teachers know how to control the classroom, evaluate student learning employing various methods, and adjust teaching styles to enhance students' learning and learning practices (Fuad, Efendi, et al., 2020; Kleickmann et al., 2012), but these components have not been able to become a teacher's provision in teaching in the current situation. Knowledge of technology is needed to wrap content knowledge and pedagogical knowledge to create online classes that students always look forward to. Technological knowledge describes the knowledge and ability of teachers to use various technologies, technology tools, and related resources (Koehler & Mishra, 2009). Teachers who understand how to integrate technology into their learning can improve instructional strategies and strengthen students' content knowledge. This is because this knowledge concerns the teachers' understanding of considering the possibilities for a particular subject area or class, learning to recognize when it will help or hinder learning, and adapting to the latest technological changes. Digital technology changes very quickly. Teachers are required to follow and adapt to these changes (Ciptaningrum, 2017).

The results of the survey (See Appendix A) show that in general, teachers can use technology in their classrooms to facilitate the delivery of Lampung language materials and assignments. However, some teachers do not seem to be able to select technology that is able to enhance the content of Lampung language subjects and have difficulty supporting others to communicate the use of technology in connecting it to the teaching and content of Lampung language. They encounter problems such as difficulty adapting to new media types, so they only use the same types of media in their classrooms. The monotonous atmosphere often makes students bored and unenthusiastic in class. To

anticipate this, teachers can learn to make independent learning products/media such as videos of learning assignments and podcasts of the subjects being taught. Teachers should always learn to develop technology skills to apply to their online classes (Angeli & Valanides, 2009). Technical skills in the use of this technology can be useful in creating more efficient learning and fulfilling 21st-century teaching skills (Ghavifekr & Rosdy, 2015; I-Ju et al., 2020; Schmidt et al., 2009).

It is reported that based on the responses of the Lampung language teachers (Table 3), the problems faced during online learning in this pandemic came from various aspects, from the quality and readiness of teachers to learning facilities. It is as stated by Baticulon et al. (2021) that problems in online learning can come from technology, individuals, institution, and the community. This online learning can run well and effectively if the teacher is ready and can master the material and package it through technology in a balanced way. The TPACK skills of Lampung teachers need to be developed over time, especially at this time. These skills will help them adjust to this type of online learning quickly. The sudden and rapid change in the educational environment to an online system has made teachers in which they do not have time to prepare properly, so many of them try to adjust as well as they can (Murphy, 2020). The main problem fought off is mental and physical capacity in dealing with online learning (Arifianto et al., 2021).

Another problem is that the assessment of learning, especially the students' character, is difficult to do during online learning. Teachers do not have the opportunity to meet face to face and interact directly with each student, so it is felt that this assessment is not as objective as it usually is when offline (Wongjammong et al., 2021). In addition to the difficulty in assessment, the teacher also cannot know which students have not understood the material and which parts of the material need to be repeated. Students tend to be passive during learning so that the teacher cannot identify their abilities (Virgin et al., 2021). One of the effectiveness of online learning is learning assessment (Snelling & Fingal, 2020; Thongbunma et al., 2021). Examining the feelings of students is believed to have a profound effect on their learning (Morgan, 2020). This examination can be done by actively asking each student related to what they feel, difficulties that need help, and other things they want to do in the next lesson. In addition, during this pandemic, to anticipate passive students who only receive information to become active students, it is necessary to emphasize the provision of a student-centered learning environment (Lei & Medwell, 2021). This approach can encourage students to exchange ideas, collaborate with friends and help them at critical points to continue their online learning (Morgan, 2020).

From the student side, problems arise as they are bored with doing many assignments. The heavy workload is one of the reasons students avoid/do not attend the next meeting (Afroz et al., 2021). In addition to teacher assignments for cognitive assessments, the extra skills students must learn to handle online materials and new forms of software reflect a heavier workload (Martin, 2020). This boredom makes students prefer to use their time to play games on smartphones than to do assignments. Most students only rely on answers from parents so they are not independent and responsible. Online learning,

in which students and teachers do not meet each other, makes students put all the burdens and questions on their parents as adults close to them. Even though not all parents can guide and supervise their children during learning due to their work and busyness. In addition, many parents feel unable to guide their children when they get assignments from the teacher. The low attendance of students and students who are not cooperative during learning leads to another negative attitude, namely frequent lying and the fading of politeness culture. The fading of politeness culture can be minimized by building effective communication between teachers and students without having to eliminate the values of tolerance, respect, and appreciation for speakers with a higher status in age and educational status (Renhoard, 2021). For all students to benefit from online learning, it is important to ensure equality among students, which includes Internet access, teacher attention, and sufficient interaction (Afroz et al., 2021; la Velle et al., 2020; Xue et al., 2020).

This online learning becomes ineffective when many materials are not delivered completely due to limited time. Limited time causes teachers to have difficulty managing the division of time in class (Munastiwi & Puryono, 2021). On the other hand, the incompleteness of the material makes students less understanding in depth about the material presented. They find it difficult to express their disagreement directly to the teacher because of the limited time and indirect meeting. Another effect of this time constraint is teachers must provide material in parallel classes (several classes at the same time with the same teacher). Meanwhile, class size is one of the most important considerations in teaching online. The higher the number is, the more challenging the teaching will be. Indeed, as reported by Tomei (2006), a class of only 12 students will spend all of the teacher's time on preparation and planning. Applying this in the real world, where classes generally contain 30 students or more, seems like teachers face formidable obstacles that can make their online teaching experience a nightmare.

Besides the problems faced during online learning, there are positive effects for both teachers and students. Online learning allows students to explore each student's learning style that they were previously unaware of. The freedom given during the class encourages students to try new things such as learning to make sketches or mind mapping. Teachers can encourage various forms of expression and respect students' views/ideas to make them confident and not ashamed to express their thoughts (Corfman & Beck, 2019; Perrone, 1994). In addition, learning techniques that are flexible in time and place make students more comfortable in learning. They can replay the learning video if they do not understand the content (Mukhtar et al., 2020) and develop critical and independent thinking skills through tasks such as making videos (Tathahira, 2020).

Indirectly, online learning has a major influence on teachers to improve their competence to create effective and efficient learning during the pandemic, especially in the use of technology (Susanti et al., 2020). The unprecedented and varied learning media are now used for online learning. In addition to the various types of learning media, teachers are also able to provide project assignments to overcome monotonous learning. Project-based learning can increase the creativity of students and their interest in participating in learning (Desi et al., 2020; Isabekov & Sadyrova, 2018; Yamin et al.,

2020). Projects that can be assigned in Lampung language classes are making recordings of folk songs, regional artworks, and videos of daily conversations using the Lampung language. All forms of online student assignments/projects enable teachers to check or review them. They can access these assignments anytime and anywhere. These file assignments can be easily archived and save paper usage. The reduction of the use of paper, food waste, and transportation emissions is the reason that virtual learning using technology is considered environmentally friendly (Kaliappen et al., 2021; Lin et al., 2012). Online learning can be one solution to increase Go Green activities among students and teachers (Putri & Jayatri, 2020).

Many new studies strengthen the use of online learning as an alternative to face-to-face learning during the COVID-19 outbreak (Afroz et al., 2021; la Velle et al., 2020; Robinson & Rusznyak, 2020; Xue et al., 2020). In addition to the characteristics of online learning which is considered following the government's policy of social distancing, the effect of online learning makes students more aware of using technology properly because of the demands of education. Willy, ready or not ready, they are required to develop digital literacy skills to adapt to the new environment. What was previously coercive had a positive impact by increasing their technological skills and knowledge. Another positive side is students learn to be responsible for assignments and time discipline in attending classes and submitting assignments.

CONCLUSION

Lampung language teachers try to adapt to the educational system that changes from offline to online in which the adaption is the use of media and educational platforms conducted by teachers during learning activities. The types of media and platforms used are quite varied, but there are 3 favorite types for Lampung language teachers, namely Google Classroom, WhatsApp, and Zoom Meeting. In general, they have mastered TPACK skills as a provision to face today's online learning although many teachers still give monotonous online learning so their technological abilities need to be improved. This monotonous online learning can be anticipated by giving assignments in the form of projects. This project assignment can increase students' creativity and interest in participating in the next learning.

The common problems faced by teachers are the inactivity of students during learning and the low attendance of students. This complicates teachers to identify the level of understanding of students and the erosion of politeness culture. Lampung language teachers can overcome this problem with a personal approach and by actively building two-way communication with students. Over time, teachers and students simultaneously try to support each other to create fun and meaningful online classes. The findings can be a consideration for educational institutions to allow teachers to improve digital literacy and open access to various educational platforms. The related policymakers must make these infrastructure facilities accessible to all teachers in general. This study recommends for not only further researchers but also software developers, teachers, students, and stakeholders to study and develop online learning platform systems related to local language subjects to help teachers and students carry out more systematic and fun teaching and learning activities. This system can later become a reference for local

language teachers, especially the Lampung language teachers, who do not master TPACK skills.

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APPENDIX

Appendix A

No	Questionnaire Components	Frequency Response					Factor Loading	Cronbach's Alpha	Communalities
		1	2	3	4	5			
Technology Knowledge									
1	I know how to solve technical problems in teaching.	1	2	9	90	6	0,553	0,967	0,603
2	I can use technology easily.	1	3	3	86	5	0,758	0,967	0,731
3	I keep up with new technological developments that are important to me.	2	2	1	84	9	0,674	0,968	0,612
4	I like to try new technology.	2	6	5	81	4	0,554	0,968	0,451
5	I know a lot about different technologies.	1	8	6	74	9	0,775	0,967	0,756
6	I have the technical skills I need to use technology.	0	5	1	83	9	0,806	0,968	0,726
7	I have enough opportunities to work with different technologies.	1	6	5	86	0	0,490	0,967	0,561
Content Knowledge									
8	I have sufficient knowledge about Lampung language content.	1	6	5	86	2	0,690	0,968	0,602
9	I usually apply scientific thinking.	1	2	3	80	3	0,454	0,967	0,469
10	I have various ways and strategies to develop my understanding of Lampung language content.	1	5	5	94	4	0,524	0,967	0,581
Pedagogical Knowledge									
11	I know how to assess student performance in class.	2	1	3	88	4	0,802	0,968	0,706
12	I can adjust my teaching to what is currently understood or not understood by the students.	2	1	6	99	0	0,800	0,967	0,723

13	I can adjust my teaching style with different students.	1	3	6	88	0	0,737	0,967	0,649
14	I can assess student learning in various ways.	1	2	7	89	9	0,734	0,967	0,680
15	I can use a variety of teaching approaches in classroom settings.	1	3	7	99	8	0,727	0,967	0,648
16	I am familiar with students' understanding and misconceptions.	1	5	1	93	8	0,508	0,967	0,551
17	I know how to organize and manage classes.	1	2	6	92	7	0,660	0,967	0,612
Pedagogical Content Knowledge									
18	I can choose an effective teaching approach to guide students' thinking and learning of the Indonesian language.	1	2	9	96	0	0,679	0,967	0,674
19	I can choose an effective teaching approach to guide students' thinking and learning of literacy.	1	2	4	0	1	0,591	0,967	0,607
20	I can adjust teaching based on what students understand to develop thinking and learn Lampung language.	1	2	5	0	0	0,657	0,967	0,713
Technological Content Knowledge									
21	I know about the technology that I can use to understand and practice Lampung Language material.	1	3	1	91	2	0,711	0,967	0,734
22	I can choose the most effective technology to understand Lampung language material.	1	1	5	91	0	0,652	0,967	0,707
23	I know how to organize and manage classes using technology in guiding students to understand Lampung language material.	1	4	4	87	2	0,677	0,968	0,760
Technological Pedagogical Knowledge									
24	I can choose technology for an effective teaching approach.	1	2	2	94	9	0,644	0,967	0,724
25	I can choose technology that enhances student learning.	1	2	5	88	2	0,714	0,967	0,738
26	The teacher education program has made me think more deeply about how technology can affect the teaching approach I use in class.	0	4	8	94	2	0,764	0,968	0,745
27	I think critically about how to use technology in the classroom.	1	7	8	94	8	0,673	0,968	0,631
28	I can adjust the use of technology that I learn to various teaching activities.	1	5	2	93	7	0,598	0,967	0,688
TPACK									
29	I can teach the appropriate subject by combining Indonesian Language material, technology, and teaching approaches.	1	4	8	89	6	0,728	0,967	0,743
30	I can choose technology to use in the classroom that enhances what I teach, how I teach, and what	1	4	0	0	3	0,761	0,967	0,762

	17	students learn.						
31		I can use strategies that combine content, technology, and teaching approaches that I learn in courses in the classroom.	0	6	8	91	3	0,755 0,967 0,669
32		I can help others coordinate the use of the content, technology, and teaching approaches in my school and/or district.	0	8	2	77	1	0,644 0,967 0,586
33		I can choose technology that enhances content for a subject.	1	7	1	88	1	0,804 0,967 0,790

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