

## INDONESIAN EFL TEACHERS' PERCEPTIONS TOWARD ICT INTEGRATION FOR LANGUAGE TEACHING IN REMOTE AREAS

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### ABSTRACT

Considering the challenges in integrating Information and Communication Technology (ICT) into language teaching in Indonesia's remote areas, the perspectives of English as a Foreign Language (EFL) teachers on this development have not been thoroughly investigated. This study aims to address questions regarding the extent of their awareness of ICT advancements, their integration of ICT into English language teaching (ELT), and their concerns about their ICT skills and knowledge. Data were collected through an online survey of 50 EFL teachers working in remote areas of West Kalimantan and East Nusa Tenggara. The survey included seven closed-ended and four open-ended questions focusing on their attitudes toward ICT development in language teaching and their adoption of ICT practices. The results indicate that the participants hold positive perceptions of ICT development in language teaching and, despite various limitations, make efforts to integrate ICT into their teaching practices. However, they also expressed significant concerns about their skills and knowledge of ICT. These findings highlight the need for supporting facilities and targeted training to enhance ICT integration in language teaching for EFL teachers in remote areas.

**Keywords:** *ICT; perceptions; EFL teachers; language teaching; remote areas.*

### INTRODUCTION

In the 21st century, the rapid advancement of digital technology has disrupted nearly every aspect of life. This disruption aligns with the challenges of the Fourth Industrial Revolution (IR4.0), which demands an educational transformation from Education 1.0 to the emerging Education 4.0, characterized by the integration of technology (Karim, Abu, Adnan, & Suhandoko, 2018; Muhaji, Suherdi, & Purnawarman, 2023). In education, this technological evolution has transformed the ways people read and learn (West, 2013), presenting challenges and opportunities for educational institutions. For 21st-century language teachers, integrating digital technology into their teaching practices has become a critical challenge (Kurniawati, Maolida, & Anjaniputra, 2018; Muhaji et al., 2023; Whyte, 2014).

ICT offers significant benefits, including greater accessibility to diverse people, languages, cultures, and social practices (Chun, Kern, & Smith, 2016) and enhanced opportunities for language learning (Richards, 2015). Educators worldwide, including in Asia, have begun integrating ICT into their teaching. Gialamas, Nikolopoulou, and Koutromanos (2013) emphasized that technology, through computers, the internet, and other digital tools,

has transformed how knowledge is constructed, processed, and communicated. Similarly, Yunus (2018) highlighted that technological advancements have reshaped pedagogy, encouraging teachers to rethink their practices through the use of technology. Given this development, it is essential to investigate whether teachers are aware of the changes and prepared to adapt to the transformation.

In accordance with this development, the educational field, particularly language education has been starting to respond to the technological advancements. Studies on teachers' perceptions of ICT unveiled mixed responses toward ICT integration in language teaching. Djwandono (2019) examined the perceptions of 110 English lecturers and teachers in East Java and found that, while they viewed ICT utilization positively and did not express significant worries about it, they were concerned about ICT potentially threatening language teachers' roles. Lubis (2018) investigated 13 English teachers' perceptions of ICT integration and noted their positive views, although the perceived benefits were primarily technical rather than functional or communicative. Similarly, Rodliyah (2018) found that vocational English teachers exhibited interest and positive attitudes toward ICT and were self-motivated to integrate it into their teaching despite challenges. Other studies (e.g., Muslem, Yusuf, & Juliana, 2018; Liu, Lin, Zhang, & Zheng, 2017) highlighted the role of perceived usefulness, subjective norms, and facilitating conditions in shaping teachers' technology perceptions.

In Indonesian EFL context, research has largely focused on teachers' perceptions of ICT and the factors influencing them. However, until recently very limited if not zero study have specifically examined the perceptions of EFL teachers in Indonesian remote areas toward ICT adoption into language teaching. Despite the immediate needs to adapt to the development of technology and adopt ICT into language teaching, teachers in these regions often face significant challenges, including limited access to resources and facilities, making it difficult for them to stay updated with technological advancements. Investigating how these teachers perceive ICT development and adoption in language teaching is critical, given the lack of support available to them.

This study addresses this gap by exploring the perceptions of EFL teachers in remote areas of Indonesia toward ICT development in education. Specifically, it seeks to investigate:

1. Teachers' attitudes toward ICT development and integration in language teaching.
2. The extent to which teachers integrate ICT into English language teaching (ELT).

In accordance with the objectives of this study, the Technology Acceptance Model (TAM) provides a robust framework for understanding technology adoption. According to Visuvalingam (2006), TAM is "one of the most widely and empirically tested theories that drew on a social psychological approach to explain adoption of technology and the factors that influenced individuals" (p. 18). Scherer, Siddiq, and Tondeur (2018) noted that TAM has been dominantly used in research to explain teachers' technology adoption compared to other models. The present study adopts TAM to guide the development of its survey instrument. TAM comprises variables that explain behavioral intentions and technology use, including actual system use, behavioral intention to use, perceived usefulness, perceived ease of use, attitudes toward technology, and external factors (Schepers & Wetzels, 2007). External variables such as self-efficacy, subjective norms, and facilitating conditions influence perceived ease of use and perceived usefulness, which, in turn, shape attitudes toward

technology and drive behavioral intention, leading to actual use (Djiwandono, 2019). This study utilized several variables of TAM in its investigation including attitudes toward technology, behavioral intention to use, actual system use, perceived usefulness, and perceived ease of use.

## METHOD

To collect the data, a questionnaire developed by referring to the TAM variables being investigated was designed prior to the survey. Following Brown's (2001) guidelines, the content validity of the questionnaire was ensured by consulting a panel of experts comprising three lecturers with Doctorate degrees in educational technology, language education, and applied linguistics. Based on the panel's feedback, the initial 15-item survey was refined to include seven closed-ended and four open-ended questions. The open-ended questions aimed to elicit more in-depth information from the participants.

The seven closed-ended questions focused on:

1. Participants' age.
2. The location of their teaching institution.
3. The extent to which they follow ICT advancements.
4. The extent to which ICT advancements influence their teaching methods.
5. Whether they utilize ICT in their teaching.
6. Their concerns about being left behind in ICT advancements.
7. Their concerns about their students being left behind in ICT advancements.

The four open-ended questions explored:

1. The types of media most frequently used in teaching.
2. The types of ICT they have utilized in teaching.
3. Their opinions on the benefits of ICT in education.
4. The importance of upgrading ICT skills and knowledge for EFL teachers in remote areas.

To ensure reliability, the questionnaire was piloted with a group of colleagues on two separate occasions using a repeated-survey reliability approach (Brown, 2001). The correlation coefficient between the two sets of responses was 0.811, indicating satisfactory reliability. The finalized questionnaire was distributed via Google Forms to English Teacher Working Group (*MGMP Bahasa Inggris*) WhatsApp groups across seven regencies in West Kalimantan and East Nusa Tenggara provinces. A total of 50 completed questionnaires were submitted and analyzed.

The data collected from the participants were further analyzed to answer the research questions. The total responses from the close-ended questions were summarized and presented in figures indicating the extent of participants' attitudes toward ICT development and integration and the integration of ICT into the participants language teaching practices. Furthermore, data from the open-ended items of the questionnaires were analyzed using content and thematic analysis. Responses to questions 1 and 2 were analyzed to identify common patterns regarding ICT integration into the participants language teaching. Further, responses to questions 3 and 4 were analyzed to unveil participants' opinions and shared ideas indicating their attitudes toward ICT development and integration in language teaching which were grouped under specific categories.

## FINDINGS AND DISCUSSION

This section presents the results from the questionnaire and discusses the findings in relation to the research questions. Overall, despite the limitations faced in remote areas, the participants demonstrated positive attitudes toward ICT development in language teaching and made significant efforts to integrate ICT into their teaching practices. However, they expressed strong concerns about both their own and their students' potential lack of ICT skills and knowledge.

### Teachers Demographic Profiles

#### *Age Distribution*

Table 1 displays the age profile of the respondents.

**Table 1.** Age of Respondents (N = 50)

Age Range	Percentage
20 – 30 years old	60
31 – 40 years old	40
41 – 50 years old	-
Above 50 years old	-

As indicated in Table 1, all participants were Millennials, with 60% aged 20–30 years and 40% aged 31–40 years. This demographic distribution suggests that the study predominantly reflects the perspectives of millennial teachers working in remote areas.

#### *Geographical Distribution*

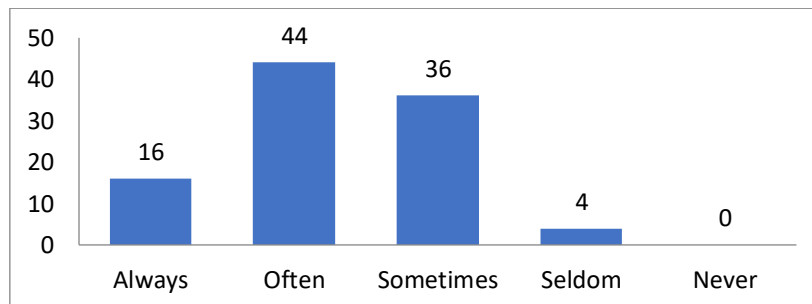
Table 2 provides the distribution of respondents across the two provinces involved in the study.

**Table 2.** Distribution of Respondents by Province (N = 50)

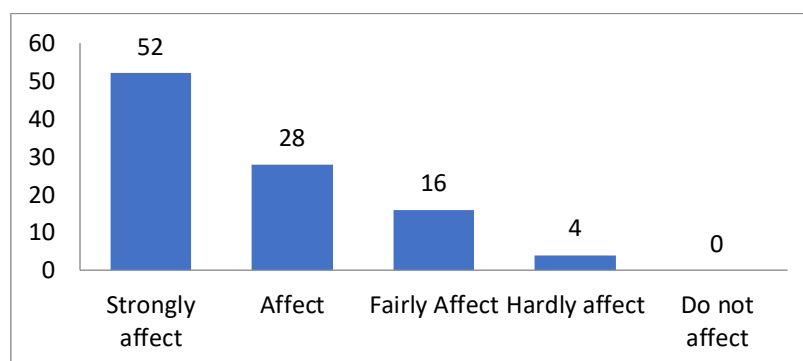
Regency	Province	Percentage
Sintang Regency	West Kalimantan	56
Bengkayang Regency		
Kubu Raya Regency		
East Sumba Regency	East Nusa Tenggara	44
Lembata Regency		
Southwest Sumba Regency		
Manggarai Regency		

As shown in Table 2, 56% of participants were from three regencies in West Kalimantan, while 44% were from four regencies in East Nusa Tenggara. This geographical distribution highlights the representation of respondents from remote areas in both provinces, offering insight into the unique challenges and perspectives of EFL teachers in these regions.

### Teachers' Attitudes toward ICT Development in Language Teaching

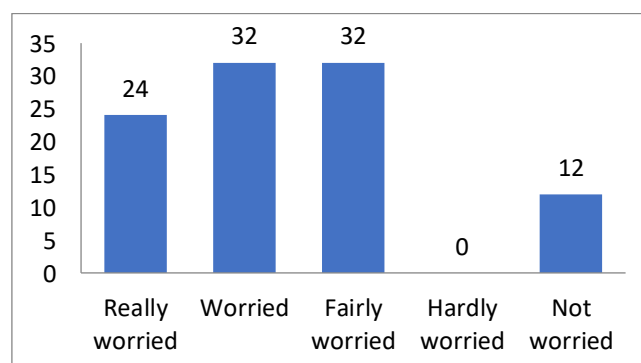


**Figure 1.** Percentage of respondents following ICT development

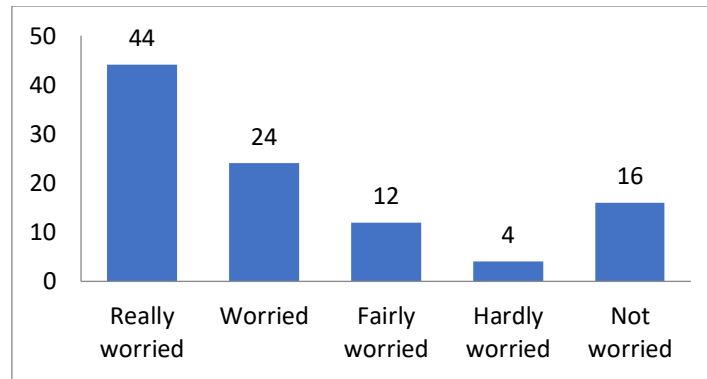


**Figure 2.** Influence of ICT development on teachers' teaching method

In accordance with the first research question, Figures 1 and 2 illustrate the participants' attitudes toward ICT development and integration in language teaching. Figure 1 highlights the extent to which respondents follow ICT developments in language teaching. About 16% of participants reported always following ICT development, while 44% often follow it, and 36% sometimes follow it. Notably, no participants indicated that they never follow ICT development, and only 4% stated they seldom do. Figure 2 examines the influence of ICT advancements on teaching methods. Approximately half of the participants (52%) indicated that ICT development strongly affected their teaching methods, while 28% reported a moderate effect. Meanwhile, 16% were fairly affected, and 4% stated they were hardly affected.



**Figure 3.** Teachers' concern on their ICT skill and knowledge



**Figure 4.** Teachers' concern on students' ICT skill and knowledge

Further, Figures 3 and 4 illustrate teachers' concerns regarding their own and their students' ICT skills and knowledge. As shown in Figure 3, 24% of the teachers reported being very worried about their lack of ICT skills and knowledge, while 32% each felt worried or fairly worried. Notably, 12% of the respondents stated they were not worried at all. Figure 4 highlights teachers' concerns about their students' ICT skills, with 44% reporting being very worried, 24% feeling worried, and 12% fairly worried. Meanwhile, 4% were hardly worried, and 16% were not worried at all. These concerns were closely tied to the limitations and challenges of integrating ICT into ELT in remote areas, as further supported by responses to the open-ended questions.

Responses to open-ended question 3 highlighted various perceived usefulness of ICT in education, including: assisting teachers in delivering and developing teaching materials, simplifying the teaching-learning process, supporting administrative tasks, providing learning resources, engaging and motivating students, and creating more interactive and enjoyable learning experiences. The participants' overall positive perceptions toward ICT were in line with the findings from Djiwandono (2019), Lubis (2018) and Rodliyah (2018). It indicates that EFL teachers in Indonesian remote areas were not significantly different from those in other areas regarding ICT integration in language teaching.

However, despite these positive perceptions, some respondents expressed frustration with the lack of infrastructure in remote schools. They felt disadvantaged compared to teachers in urban areas, emphasizing that insufficient facilities severely limited their ability to integrate ICT into language teaching. These challenges highlight the gap between the potential benefits of ICT and the practical constraints faced by educators in remote settings. This finding underlines the critical difference of perceptions between EFL teachers in remote areas with those in other more accessible areas. As underscored in Djiwandono's (2019) study, the participants' concern was in the possibility of ICT becoming a threat for language teacher for its latest advancement in providing more independent ways of learning language for learners.

Concerning the participants' perceptions toward the importance of upgrading their skills and knowledge on ICT, thematic analysis revealed three primary themes: (1) upgrading ICT skills and knowledge is essential to remain relevant, (2) upgrading ICT skills and knowledge supports the teaching and learning process, and (3) upgrading ICT skills and knowledge is unnecessary. These themes and the corresponding data are presented in Table 3.



**Table 3.** Respondents' opinion on the importance of upgrading skill and knowledge of ICT for EFL teachers in remote areas

Theme	Data illustration
Upgrading skill and knowledge of ICT is important to stay relevant	"very important to have the same level of skills in teaching with teachers in the urban areas, and to have better understanding on technology-based curriculum implementation"
	"very important, so that we are not left behind and to minimize the difference in digital technology implementation between the schools in remote areas and the schools in urban areas, and to make the teachers and students understand that it is not a trend but something that must be done"
	"important, so that teachers in remote areas are not out-of-date and to learn how to fill online rapport"
	"important, since if we are not upgrading our skill and knowledge of ICT we will be further left behind, even though we haven't been able to implement it well in teaching we must keep upgrading ourselves with the rapid advancement"
	"very important, because even though they live in remote areas, nowadays students also follow the new development in this era, so to have a good engagement with the students teachers also need to update their knowledge"
	"important, for example in this pandemic situation we have to learn how to use the technology"
	"very important, because we are still lack of knowledge in ICT, so that at least we can use digital tools for presentation and not left behind about the information of ICT integration in education"
	"important, because the students in remote areas also need the skills to face the global challenges in the future"
	"important, so that teachers will not outdated especially because we are now in the digital era"
	"important, because it can help teacher in delivering teaching materials and also not to left behind in ICT development"
	"important, in order to not left behind and technology can also be the media in teaching to increase students' motivation"
	"important, as the development of the this era, new technology can help in delivering teaching materials easily"
upgrading skill and knowledge of ICT is important	"very important, since it can attract students attention and assist them in learning"

to assist teaching-learning process	"important to ease the teaching-learning process and assist teachers in delivering the materials"
	"important to help teachers teaching easier"
	"important for teachers to deliver information to students"
	"very important, since it will give new value and spirit in educating our people"
	"important, however it is very difficult for us in the remote areas, the more remote we are the more difficult to have internet connection"
	"important, but we cannot implement technology-based learning because the facilities are very limited"
upgrading skill and knowledge of ICT is not important	"not too important, since there is only a limited number of the workshops/seminars provided for us. Furthermore, due to the technical limitation and bad internet connection, there are only few teachers who can implement ICT in teaching after following the workshops/seminars"
	"not really important"
	"not important, since sometimes the materials in the book are not relevant with the students' situation"

Table 3 shows the respondents' opinions on the importance of upgrading ICT skills and knowledge for EFL teachers in remote areas. Those who believe it is important primarily argue that digital technology enhances the teaching and learning process. They also feel that without upgrading their ICT skills and knowledge, they will be left behind and be considered outdated. These respondents acknowledge that while they may not be able to fully implement technology in their teaching, they still need to update their skills and knowledge in this area. Despite the limitations of supporting facilities in remote areas, it can be said that the teachers remain highly motivated to improve their skills and knowledge and to integrate ICT into their language teaching practices.

However, a small number of participants were not motivated to upgrade their ICT skills and knowledge, viewing it as unimportant. This attitude was largely attributed to systemic barriers and cultural attitudes in remote areas. The limited access to supporting facilities and a lack of government assistance in providing workshops or seminars on ICT integration in language teaching seemed to demotivate these teachers from integrating ICT into their pedagogical practices. In addition, their beliefs that there was no urgency of integrating ICT for teaching students in this area eliminated the necessity of ICT integration into language teaching.

The positive attitudes demonstrated by most participants toward ICT development and integration into language teaching align with findings by Celik and Aydin (2014) and Rodliyah (2018). However, the persistence of significant barriers related to accessibility and infrastructure underscores the urgent need for policy interventions to address the digital divide between urban and remote areas. The fact that respondents' practices in ICT integration in ELT are still lagging behind, coupled with the severe constraints in accessibility



and available facilities, has resulted in low confidence and considerable concern about lacking ICT skills and knowledge.

Motteram (2013) noted that the range of technologies available for language learning and teaching in the 21st century is diverse, and how these technologies are utilized has become a critical undertaking. For teachers in urban areas, or those living in areas with the necessary infrastructure to access the latest technology, staying up to date with the newest ICT trends and utilizing them in teaching and learning activities may not be particularly difficult. In fact, technology is now an inseparable part of our daily lives. However, for teachers in remote areas, integrating advanced ICT into their teaching practices remains a challenge due to infrastructural and resource constraints. Despite their awareness of technological advancements, most of these teachers can only hope to incorporate the latest digital tools into their language teaching. As a result, they continue to rely on the most accessible and straightforward forms of technology available.

Additionally, as the responses to the questionnaire suggest, these teachers have significant concerns about the level of their ICT skills and knowledge. This is consistent with Djiwandono's (2019) observation that teachers unfamiliar with the rapid advancement of digital technology and accustomed to traditional teaching methods are more likely to feel uneasy about integrating new technologies.

#### ICT Integration into English Language Teaching (ELT)

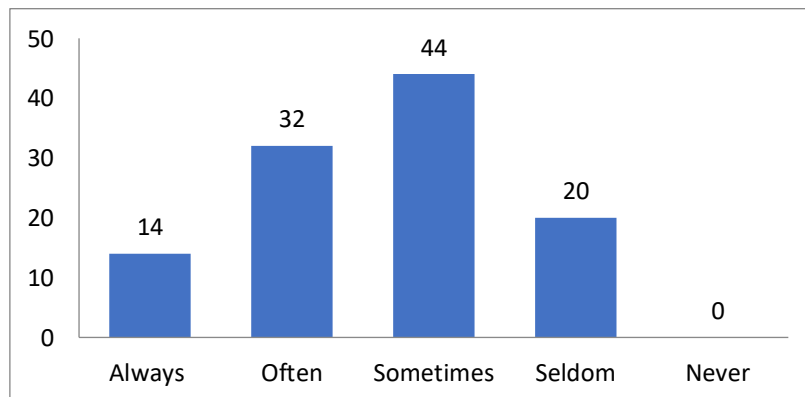


Figure 5. The use of ICT in teaching

Figure 5 illustrates the actual integration of ICT into participants' language teaching practices. Only 14% of respondents reported always using ICT in their teaching, while 32% said they often used it. Nearly half of the participants (44%) stated that they sometimes used ICT, and 20% reported seldom using digital technology.

In response to open-ended question 1, the media most used by the EFL teachers in remote areas were pictures, textbooks, laptops, and whiteboards. Teachers cited ease of use, limited school facilities, and accessibility as the main reasons for their choices. Regarding the types of ICT that they had employed in their teaching (open-ended question 2), most teachers mentioned laptops as the ICT tool they mostly utilized. Further, PowerPoint, mobile phones, Google Classroom and Google Forms were the types of ICT the teachers used respectively as

the least used. Additionally, one participant reported using Android applications such as Quizizz and Kahoot. One teacher highlighted that their use of Google Forms began only in May 2020, when internet connectivity became available at their school.

Teachers who used laptops stated that they were straightforward to operate and helpful in delivering teaching materials. However, limited access to LCD projectors meant laptops were often used for displaying videos, pictures, or slides. Such practice was not particularly practical for teaching big classes. Participants who utilized PowerPoint cited its simplicity and effectiveness in facilitating teaching. Those who used mobile phones did so primarily because of their availability and as a tool to engage students, although one respondent found mobile phones ineffective for teaching. The findings suggest that ICT integration in these contexts remains at a basic level.

In addition, the small number of teachers who employed Google Classroom, Google Forms, Quizizz, and Kahoot valued these applications for their ability to engage and motivate students. However, four respondents indicated that they had never utilized ICT tools or applications in their teaching due to poor internet connectivity and inadequate telecommunication signals in their areas. As a result, they relied solely on textbooks and believed that ICT integration was unnecessary in their current teaching conditions.

## **CONCLUSION**

This paper investigates the perceptions of EFL teachers in remote areas toward ICT development in education. Specifically, it explores their attitudes toward ICT integration in language teaching and whether they are concerned about their ability, and that of their students, to keep up with the rapid pace of ICT advancements in language education.

The analysis of responses to both closed- and open-ended questionnaires reveals that, despite the challenges in remote areas, EFL teachers maintain a positive attitude toward ICT development in language teaching and make efforts to integrate ICT into their teaching practices. However, the rapid advancement of digital technology has raised significant concerns. Teachers expressed considerable worry that both they and their students are falling behind in ICT skills and knowledge compared to their urban counterparts.

Although the teachers view ICT development positively, responses to the open-ended questions show that ICT integration in their teaching remains limited due to the constraints they face in remote areas. Nonetheless, most teachers believe that continuously upgrading their ICT skills and knowledge is crucial for staying relevant and improving their teaching. Furthermore, they also believe that ICT integration would enhance student motivation in language learning.

The findings of this study suggest that the government should provide more support for teachers in remote areas regarding ICT integration and development. This support could include offering more workshops and training opportunities, as well as ensuring better access to ICT resources and infrastructure in schools.

## REFERENCES

- Brown, J. D. (2001). *Using surveys in language programs*. Cambridge, England: Cambridge University Press.
- Celik, S., & Aydin, K. (2014). Teachers' views on digital educational tools in English language learning: benefits and challenges in the Turkish context. *TESL-EJ*, 18(2), 1-18. Retrieved from <http://www.tesl-ej.org/wordpress/issues/volume18/ej70/ej70a1/>
- Chun, D., Kern, R., & Smith, B. (2016). Technology in language use, language teaching, and language learning. *The Modern Language Journal*, 100(S1), 64-80.
- Dashtestani, R. (2014). English as a foreign language teachers' perspectives on implementing online instruction in the Iranian EFL context. *Research in Learning Technology*, 22. doi: 10.3402/rlt.v22.20142
- Djiwandono, P. I. (2019). How language teachers perceive information and communication technology. *Indonesian Journal of Applied Linguistics*, 8, 607-615. doi: 10.17509/ijal.v8i3.15260
- Gialamas, V., Nikolopoulou, K., & Koutromanos, G. (2013). Student teachers' perceptions about the impact of internet usage on their learning and jobs. *Computers & Education*, 62, 1-7. doi:10.1016/j.compedu.2012.10.012
- Karim, A. A. K., Abu, A. G. B., Adnan, A. H. M., & Suhandoko, D. J. (2018). The use of mobile technology in promoting education 4.0 for higher education. *Advanced Journal of Technical and Vocational Education*, 2(3), 34-39.
- Kurniawati, N., Maolida, E. H., Anjaniputra, A. G. (2018). The praxis of digital literacy in the EFL classroom: digital-immigrant vs digital-native teacher. *Indonesian Journal of Applied Linguistics*, 8(1), 28-37. doi: 10.17509/ijal.v8i1.11459
- Liu, H., Lin, C., Zhang, D., and Zheng, B. (2017). Chinese language teachers' perceptions of technology and instructional use of technology: A path analysis. *Journal of Educational Computing Research*, 56(3), 85-101. doi: 10.1177/0735633117708313
- Lubis, A. H. (2018). ICT integration in 21st-century Indonesian English language teaching: Myths and realities. *Cakrawala Pendidikan*, 37(1), 11-21. doi: 10.21831/cp.v37i1.16738
- Motteram, G. (ed.). (2013). *Innovations in learning technologies for English language teaching*. London, UK: British Council.
- Muhaji, U., Suherdi, D., & Purnawarman, P. (2023). Adoption of online technologies for language teaching during COVID-19 pandemic in narrative frames. *Indonesian Journal of Applied Linguistics*, 12(3), 840-854.
- Muslem, A., Yusuf, Y. Q., & Juliana, R. (2018). Perceptions and barriers to ICT use among English teachers in Indonesia. *Teaching English with Technology*, 18(1), 3-23.
- Richards, J. C. (2015). The changing face of language learning: learning beyond the classroom. *RELJ Journal*, 46(1), 5-22. <https://doi.org/10.1177/0033688214561621>
- Rodliyah, R. S. (2018). Vocational school EFL teachers' practices of integrating ICT into English lessons: Teachers' voices. *Indonesian Journal of Applied Linguistics*, 8, 418-428. doi: 10.17509/ijal.v8i2.13309
- Schepers, J., & Wetzels, M. (2007). A meta-analysis of technology acceptance model: Investigating subjective norm and moderation effects. *Information & Management*, 44(1), 90-103. doi:10.1016/j.im.2006.10.007
- Scherer, R., Siddiq, F., & Tondeur, J. (2018). The technology acceptance model (TAM): A meta-analytic structural equation modelling approach to explaining teachers' adoption of digital

technology in education. *Computers & Education*, doi:  
<https://doi.org/10.1016/j.compedu.2018.09.009>

Visuvalingam, V. (2006). *A conceptual framework to explain technology acceptance of electronic negotiation utilizing software agents*. (Master's thesis). University of Waterloo, Ontario, Canada.

West, D. M. (2013). *Digital schools: How technology can transform education*. Washington, DC: Brookings Institution Press.

Whyte, S. (2014). In Schmid, E.C. & Whyte, S. (2014). *Teaching Languages with Technology: Communicative approaches to interactive whiteboard use*. London: Bloomsbury.

Yunus, M. Md. (2018). Innovation in education and language learning in 21<sup>st</sup> century. *Journal of Sustainable Development Education and Research*, 2(1), 33-34.