

Revealing English Teachers' Views of Digital Technology Integration at Vocational Universities

Damar Isti Pratiwi

Railway Mechanical Engineering Study Program
Politeknik Perkeretaapian Indonesia Madiun

damar@ppi.ac.id

Budi Waluyo

School of Languages and General Education
Walailak University

budi.business.waluyo@gmail.com

Corresponding email: budi.business.waluyo@gmail.com

Abstract

Previous research has validated teachers' positive attitudes toward incorporating digital technology into general English classes, but little research has been undertaken in vocational universities, where English is classified as English for Specific Purposes. As a response, this study explored vocational university teachers' perceptions of integrating digital technology in teaching English by considering years of teaching experience. Framed by a mixed-method research design with surveys and interviews, it engaged 120 vocational university teachers in Indonesia. Quantitative data were examined using descriptive statistics, paired-sample t-tests, and one-way ANOVA, while thematic analysis was applied to qualitative data. The analysis showed that 66.5% teachers perceived advantageously toward digital technology integration in the teaching of English to vocational university students. The findings disclosed that most participants perceived digital technology integration positively in terms of helping teachers teach English, increasing teachers' creativity, assisting students in learning English, and supporting teachers' professional development. Yet, 25% of the participants stated they were neutral, while 8.5% disagreed with the majority. It might be caused by challenges that still arose during technology integration in EFL classes. Further, there were no significant differences in statistical analysis comparing the teachers' perception based on teaching experience. Several suggestions for teachers, vocational institutions, and educational policymakers were presented to shed light on vocational teachers' professional development, which could improve the vocational education system.

Keywords: digital technology; teacher' perception; teacher' voice; vocational teachers; vocational university

Introduction

Being a professional teacher is not an instant process. It should be prepared by the teacher training program to equip teachers with theoretical and practical knowledge (Aimah et al., 2020). Theoretical knowledge relates to courses that provide teachers with knowledge of content and pedagogy, while practical knowledge deals with teaching-practice courses. Promoting relevant pedagogical knowledge in the teaching and learning process through appropriate technology is critical, particularly in the post-pandemic. During the COVID-19 outbreak, all classes responded to this new demand due to physical distance by conducting online classes and hybrid classroom models. Digital competence becomes a significant factor that causes education failure in the online learning system. At the same time, teachers are blamed when schools do not meet the standard criteria of education or the applied curriculum in a country (Maming et al., 2020). Specifically, in EFL classes, the teachers are required to be digitally literate to support students with the skills they need to acquire the target language successfully (Pratiwi et al., 2021).

Many empirical studies have reported students' and teachers' perceptions of integrating digital technology in English Foreign Language (EFL) classes – both offline or online, not only in the Indonesian context (Aimah et al., 2020; Pratiwi & Ubaedillah, 2021), but also in other countries of EFL learners (Kasuma et al., 2021; Shatri et al., 2021). However, those studies did not comprehensively explore students or teachers' perceptions in vocational university contexts. Further, studies in American and Canadian university contexts mentioned that teaching experience correlates to teachers' effectiveness, provides benefits to their colleagues and students, and improves their professional development, including the use of digital technology in the classroom (Irvine, 2019; Podolsky et al., 2019). Despite this, a survey of teachers from 23 countries (including Malaysia, Korea, Australia, Brazil, Denmark, Portugal, and Malta) found that teaching experience did not fully support teachers' professional development in terms of ICT teaching skills and teaching special education students (OECD iLibrary, 2009).

To contribute to the literature and provide practical awareness, the present study examines vocational university teachers' perceptions of integrating digital technology in teaching English. When teachers perceive digital technology positively, it is one of the ways to build their professional identity (Pratiwi & Waluyo, 2022; Santosa & Iskandar, 2023). Therefore, it is expected that the result of this study would shed light

on the issues concerning the professional development of vocational teachers regarding digital competencies not only in the Indonesian context but also in the whole ASEAN region, where English is a foreign language. Further, this study will have implications for student-teachers, teachers, vocational education institutions, and other education policymakers for developing the vocational education system.

The Teachers' Consortium in the United States defines digital competency as one of the skill frameworks with which schools must equip their students (Tican & Deniz, 2018). Teachers must be digitally competent to assist students. Teachers are expected to be familiar with various pedagogical approaches and appropriate ways to use information and communication technology (ICT) to promote the development of their students' skills. Teachers' level of digital fluency varies over time and between contexts, but they must always be able to work within the constraints of the curriculum they are assigned to teach. The demands of today's classrooms allow teachers to fully utilize technology's capabilities to improve instruction and better prepare their students for success in today's increasingly digital world (Hazaea & Alzubi, 2018). This implies that teacher digital competence encompasses the ability to critically evaluate and use information and comprehend the role of technology and its development in social and cultural contexts.

Various researchers have reported that digital technology integration benefited students and teachers in EFL classes, yet some technical challenges, such as teachers' digital competencies and internet connection problems, still happened (Aimah et al., 2020; Pratiwi & Waluyo, 2022; Sumarni et al., 2023). A survey conducted on Serbian English teachers considered that the teachers could implement digital technology in the classroom but found some difficulties during the teaching process in an online education context (Gavranović & Prodanović, 2021). In the same vein, while integrating technology in the teaching process of productive language skills—speaking and writing—teachers could manage the class well, yet some problems still arose (Mahbub, 2018; Rahman & Izzah, 2015). Hence, it was suggested that online English courses should provide the same learning quality as in a face-to-face environment by enhancing the seven factors constructing a positive online English classroom climate, including task orientation, equity, involvement, investigation, cooperation, teacher support, and students' cohesiveness (Waluyo et al., 2022). Further, the use of ICT, governed by planned and carefully defined teaching goals,

can cast new light on teaching English—both general English (GE) and English for Specific Purposes (ESP).

Moreover, teaching EFL in a university that belongs to GE is different from teaching EFL in a vocational university that belongs to ESP. The nature of GE is fairly generic, and its purpose is to serve the students by teaching all four language skills and placing equal emphasis on each of them (Rahman & Izzah, 2015). ESP was developed to cater to the requirements that learners and other stakeholders in certain fields have for effective communication, whether it is for the purposes of work or study (Mahbub, 2018). Indeed, well-trained, and highly qualified teachers are essential for quality education (Ulla & Winitkun, 2018), especially in vocational universities, as the teachers must meet learners' and stakeholders' needs.

This present study is conducted to explore teachers' perceptions of integrating digital technology for teaching EFL in a vocational university context. The following research questions are raised:

- 1) What are vocational teachers' perceptions toward digital technology integration in teaching English?
- 2) How is the comparison of vocational teachers' perceptions toward digital technology integration in teaching English based on time-teaching experience?

Research Methodology

Research Design and Participants

The present study employed a mixed-methods research design to evaluate the thoughts, opinions, and feelings of groups of significant people about the problem under study. This method enabled an in-depth exploration of specific issues, in which participants could explain their experiences in detail (Schreier, 2012). In the present study, teachers' perceptions toward digital technology integration in teaching English were analyzed quantitatively at first, then reinforced with qualitative findings.

The participants were recruited from some WhatsApp groups of university teachers in Indonesia. The Google form link was sent to the groups, indicating research information, informed consent, the closed-ended survey, and the voluntary form to be contacted for an online interview. Besides their willingness to participate in this study, the participants must be English-speaking vocational university teachers. The teachers were classified based on their time-teaching experience to determine whether there were any effects of time-teaching experience on digital

competencies. The number of targeted participants was 120, with each group's time-teaching experience hinting at 30 participants. After the targeted participants were fulfilled, the survey ended. Two teachers from each time-teaching group were asked to be voluntarily interviewed ($N = 8$). Henceforth, 120 English vocational teachers became the participants of this study. They came from various vocational universities across Indonesia, as presented in Table 1. Their ages ranged from 30 to 40 years old.

Table 1. Participant's Description

	Category	Freq.	Percentage
Time-teaching Experience	1-2 years (Group 1)	30	25%
	3-4 years (Group 2)	30	25%
	5-6 years (Group 3)	30	25%
	> 6 years (Group 4)	30	25%
Demographic area	Sumatra	35	29.17%
	Java	46	38.33%
	Kalimantan	8	6.67%
	Sulawesi	10	8.33%
	Bali and Nusa Tenggara	11	9.17%
	Maluku and Papua	10	8.33%

Instruments

A closed-ended questionnaire and a semi-structured interview were conducted to explore teachers' voices toward digital technology integration in teaching English. The survey was adapted from Ulla and Winitkun (2018), while the semi-structured interview was adjusted from Shatri et al. (2021).

The survey was a Likert-scale questionnaire ranging from 1 to 5, with "1" was strongly agree, and "5" was strongly disagree in the online survey format in Google form. There were 16 items which were divided into 4 major categories: digital technology integration helps teachers in teaching English (4 items), digital technology integration increases teachers' creativity (3 items), digital technology integration benefited students in learning English (5 items), and digital technology integration supports teachers' professional development (4 items). All participants were asked to fulfil the survey voluntarily after reading the research information and informed consent (Shatri et al., 2021; Ulla & Winitkun, 2018).

The semi-structured interview was conducted online through the Zoom meeting platform, and all the interviews were recorded. Later, the recordings were transcribed. Each interview lasted approximately 20 to 30 minutes in English and Indonesian to avoid misunderstanding and capture deeper thoughts from the participants.

Data Analysis

To answer the three research questions, quantitative and qualitative data analysis were employed, as the following:

a) Quantitative Analysis.

- 1) Descriptive statistics analysis of the questionnaire results (mean, standard deviation, normality tests) were conducted to answer research question 1.
- 2) Paired Sample t-test analysis was run to explain the comparison of vocational teachers' perceptions toward digital technology integration in teaching English based on time-teaching experience to answer research question 2.

b) Qualitative Analysis

Qualitative analysis employed thematic analysis, in which the data were detected, analyzed, and reported based on themes. This study used deductive approach for coding and structuring the interview results to generate themes. The emphasis was based on the challenges, needs and proposed solutions from the teachers in integrating digital technology in teaching English.

Findings and Discussion**Findings****Vocational Teachers' Perceptions Toward Digital Technology Integration in English Teaching**

Overall, the participants had favorable attitudes toward the incorporation of digital technology in the teaching of English to vocational university students. However, some minor participants showed negative attitudes toward digital technology integration. Among the 16 items in the survey, they could be categorized into 4 categories, including: 1) how digital technology integration helps teachers in teaching English; 2) how digital technology integration increases teachers' creativity; 3) how digital technology integration benefits students in learning English; and 4) how digital technology integration supports teachers' professional development, as seen in Table 2.

Table 2. Survey Results

Item	SAg	Ag	Ne	Di	SDi
Digital technology integration helps teachers in teaching English	33.75%	33.12%	23.75%	8.54%	0%
Digital technology integration increases teachers' creativity	30.28%	34.44%	26.39%	8.06%	0%

Item	SAg	Ag	Ne	Di	SDi
Digital technology integration benefited students in learning English	27.50%	36.33%	25.83%	9.50%	0%
Digital technology integration supports teachers' professional development	42.71%	33.75%	14.38%	8.33%	0%

Note: SAg = Strongly Agree; Ag = Agree; Ne = Neutral; Di = Disagree; SDi = Strongly Disagree

In the first category, 67.71% of participants (N = 120) selected "strongly agree" or "agree" as their response, 23.75% selected "neutral," 8.54% selected "disagree," and none of them selected "strongly disagree" in response to the question of whether or not integrating digital technology into the teaching of English helps teachers. It means that the integration of digital technology has benefited teachers in EFL classrooms. In the second category, 65.55% of the participants chose strongly agree or agree, 26.39% chose neutral, 8.06 chose disagree, and none chose strongly disagree regarding digital technology integration increasing teachers' creativity. It means that the incorporation of digital technology has increased the number of activities in EFL classrooms. For the students' benefits during digital technology integration in English class, 64.67% of participants chose strongly agree or agree, 25.83% chose neutral, and 9.5 chose disagree in the third category. It means that the teachers thought digital technology integration helped students learn English. In the last category, 77.29% of the participants chose "strongly agree" or "agree," 14.38% chose "neutral," 8.33% chose "disagree," and none chose "strongly disagree" toward digital technology integration supporting teachers' professional development. It means that by integrating digital technology, teachers can develop their professional competencies.

The descriptive statistics analysis showed the results of the students' survey for 16 items in 4 categories at a moderate level (Mmin = 1.62; Mmax = 2.4). Although the majority of the participants showed positive attitudes and beliefs toward digital technology integration, some of them showed neutral and negative attitudes and beliefs. Therefore, vocational teachers' perceptions regarding digital technology integration to help teachers teach English, increase teachers' creativity, benefit students in learning English, and support teachers' professional development were moderate. Further, the results of Skewness and Kurtosis were in the range +2 to -2, which meant that the data were in normal distribution and homogeneous, so the data could proceed into parametric test analysis to answer research questions 2 and 3.

The Comparison of Vocational Teachers' Perceptions Toward Digital Technology Integration in Teaching English by Time-Teaching Experience

The paired-sample t-test displayed the comparison of vocational teachers' perceptions toward digital technology integration in teaching English based on time-teaching experience. The comparison of groups 1 and 2 (Sig. = .004; $t = -3.39$), groups 1 and 3 (Sig. = .035; $t = -2.31$), groups 2 and 4 (Sig. = .000; $t = 4.71$), and group 3 and 4 (Sig. = .000; $t = 4.56$) showed that there were different teachers' perceptions toward digital technology integration in teaching English (Sig. < .05; t value > 2.13). However, the comparison of groups 1 and 4 (Sig. = .063; $t = 2.01$) and groups 2 and 3 (Sig. = .813; $t = .24$) showed no difference between those groups (Sig. > .05; t value < 2.13). It means that teachers with 1-2 years of teaching experience compared to teachers with more than 6 years of teaching experience and teachers with 3-4 years of teaching experience compared to teachers with 5-6 years of teaching experience had no different opinions. The other comparison of teachers' groups had different opinions.

Table 3. Paired-Sample t-Test Results (N=16)

Pair (Total Scores)	Mean	SD	Std Error Mean	t	Sig.	Pearson r
Groups 1 & 2	-.12	.14	.035	-3.39	.004	.87
Groups 1 & 3	-.11	.19	.047	-2.31	.035	.72
Groups 1 & 4	.09	.19	.047	2.01	.063	.73
Groups 2 & 3	.01	.16	.041	.24	.813	.82
Groups 2 & 4	.21	.18	.045	4.71	.000	.78
Groups 3 & 4	.20	.18	.045	4.56	.000	.72

Note: Group 1 = 1-2 years; Group 2 = 3-4 years; Group 3 = 5-6 years; Group 4 = > 6 years

The effect size based on Pearson r coefficient between two groups in the paired-sample analysis showed that the correlation between groups 1 and 3 ($r = .72$), groups 1 and 4 ($r = .73$), groups 2 and 4 ($r = .78$), and group 3 and 4 ($r = .72$) were all high. In contrast, the correlation between groups 1 and 2 ($r = .87$) and groups 2 and 3 ($r = .82$) was very high. It means that teachers' opinions have a significant correlation among the group of teachers.

Challenges in Integrating Technology to EFL Classrooms of Vocational Universities

In a vocational university context, there appears to be a lack of information regarding appropriate technology for teaching English, particularly with regards to specific skills such as vocabulary, grammar, speaking, listening, reading, and writing. Furthermore, there are limited opportunities for teacher training programs that focus on the implementation of digital technology in English for Specific Purposes (ESP) classrooms. These training programs tend to primarily focus on pedagogical implications and teaching methods and strategies rather than digital tools.

Additionally, the rapid shift from offline to online and now hybrid teaching environments because of the COVID-19 pandemic has created challenges for educators in adapting and implementing these changes, as seen in the following excerpts.

I cannot get abundant or a full information regarding the appropriate technology for teaching English in vocational university context especially when it comes to each specific skill such as vocabulary, grammar, speaking, listening, reading, and writing (T1).

There is very limited chance to get teacher training program about the implementation of digital technology in ESP classroom. Usually, the training programs are more about pedagogical implication regarding the teaching method and strategy, not in terms of digital tools (T4).

The fast change of teaching setting, from offline to online, then nowadays it is hybrid. I still try to adapt and implement the online setting, but then it has changed into hybrid setting as it has already been post-Covid19 pandemic. It really makes me shock (T7).

Teachers' Needs to Integrate Technology into Their EFL Classrooms

The teachers pointed out the importance of having a suitable device and stable internet connection for a successful digital class. In the context of a university, there is a limited number of computer laboratories available, with a limited number of computers, which can cause issues for students who are required to use them. Additionally, the availability of good internet connection is crucial, as even the best computer device is rendered ineffective without it. To mitigate these issues, providing computer training programs for students to familiarize them with the devices and learning platforms would be beneficial, so that during English classes, the teacher does not have to spend time teaching them how to use these tools, as shown in these excerpts.

The main point is the device. Then, we need good internet connection to run a successful digital class. In my university, there are only 4 computer laboratories which consist of 24 computers in each room. In total there are 96 computers. However, there are 220 first-year students which have to use the laboratory in turn as they are still prohibited to bring laptop during the first semester. The students must use the computer laboratory (T2).

Good internet connection. Even the best computer device cannot be used if there is no good and stable internet connection. (T3).

First, good internet connection. Second, computer training program for students, so that in English class the teacher does not need to teach them how to use the device and some learning platforms as they have been familiar with those (T8).

Teachers' Proposed Alternative Solutions to Overcome Their Difficulties and Meet Their Needs

The teachers believed that both schools or government regulators should provide teacher training programs that educate teachers on appropriate technology to be used in English for Specific Purposes (ESP) classrooms, with a focus on specific skills such as vocabulary, grammar, and listening. Furthermore, for those who have had the opportunity to participate in these training programs, it is suggested that there be accessible information provided in the form of simple books or websites that can be accessed by all teachers, to facilitate the implementation of these technological tools. Additionally, it is also suggested that educational institutions should provide all necessary infrastructures, including digital tools, devices and internet connection, and that students should also be provided with training programs to improve their digital competence in learning English, as presented in the excerpts below.

I think both school or government as the regulator should provide teacher training program which train and educate the teachers about appropriate technology used in ESP classrooms – not only in general skill, but also in each specific skills such as vocabulary, grammar, listening, etc. Then, for those who have had the chance to join the training program, there should be provided information maybe in simple book or website that can be accessed by all teachers regarding the technological tools, how to access and how to implement (T5).

The educational institution should provide all infrastructures needed: complete information about digital tools, devices, internet connection, etc. Then, beside teacher training program to improve teachers' digital competence, there should be students' training program about how to use digital platform in learning English (T6).

Discussion

This paper aimed to explore teachers' voices in integrating digital technology in teaching English to vocational university students regarding teachers' beliefs, challenges, needs, and alternative suggestions from their peers. According to previous research, the majority of vocational university teachers in Indonesia viewed digital technology integration positively (Aimah et al., 2020; Pratiwi et al., 2023, 2024).

The teachers thought using technology helped them teach EFL, improved teachers' creativity, benefited the students, and supported teachers' professional development. This study, however, revealed that not all vocational teachers perceived technology integration positively. About 25% of the 120 participants were neutral about its benefits or drawbacks, and about 8.5% saw it in a negative light. Those who perceived this negatively thought that technology could not be easily combined in language teaching as well as used to teach different language skills with the same platforms. In the previous research, it was mentioned that teachers could manage to conduct classes in a satisfying manner using technology. Still, with different difficulty levels, while teaching receptive and productive language skills, the class environment needed to be characterized by specific features to maximize the potential of technology integration (Gavranović & Prodanović, 2021). Class characterization is recommended to fully meet the demands of students who are interested in learning English by expanding the benefits of technology integration. This is particularly important in vocational English classes, which are offered in settings where communication in English is required for work or study in specific fields. Further, when integrating activities with technology, ICT facilities, technical assistance, and a small classroom size should be taken into account to improve students' learning outcomes (Nhu et al., 2014; Pratiwi & Waluyo, 2022).

Based on this study, challenges in technology integration, including limitless sources of technology applications and teachers' training programs in digital technology implementation, also happened in some countries, including GE or ESP (Graça et al., 2021; Pratiwi et al., 2022; Sumarni et al., 2023). Both vocational education institutions and education policymakers should provide relevant technology resources accompanied by training programs in using the platforms in EFL classes. Indeed, supporting the teachers and students with reliable devices and an adequate internet connection is also needed because knowledge of how to effectively use digital tools in the classroom, as well as other professional teaching skills, is acquired and refined via experience and interaction with the actual world (Graça et al., 2021). Even after the pandemic has passed, due to the extensive changes that teachers and their students have undergone over the past few years, it is likely that relevant online learning instructions and practices will be implemented and become a regular part of teachers' and students' daily lives, particularly in higher education institutions (Zhao & Watterston, 2021). Henceforth, technology integration has unquestionably

prompted the implementation of English classes at institutions worldwide (Crawford et al., 2020).

A previous study mentioned that the students' lack of information about the various types of technology was the most significant barrier to using technology for language learning, and they underlined the importance of having access to expert support (Fathali et al., 2020). Technology has demonstrated its effectiveness in encouraging collaborative learning, enhancing learning outcomes, and enlarging learners' enjoyment and autonomy (Waluyo & Bucol, 2021). As a result, teachers and vocational institutions must provide available technology resources and support students in using digital technology for EFL classes, because students who use technology in their daily lives have a strong influence on their use of technology for other purposes, including learning English (Hazaeda & Alzubi, 2018; Stockwell, 2013). Moreover, the students usually act as passive readers in the use of technology rather than active participants in the classroom (Fathali et al., 2020). Given this, the teachers are encouraged to concentrate more on implementing peer-to-peer communication technology to improve students' learning outcomes.

Considering the different teachers' time-teaching experiences, there were no significant differences in teachers' perceptions toward digital technology integration in teaching English in this study. This might be caused by the same teachers' generation who became the participants of this study, although they had different time-teaching experiences. The previous generation, born before the 2000s, was called digital immigrants (Chapelle & Sauro, 2017). Many of them needed to shift the focus away from a technocentric emphasis on a specific technology to strategies for technology integration. Henceforth, they need to focus on strategies that emphasize language and content, skills for the 21st century, and the capacity to use relevant technology to teach language in a variety of contexts and to a variety of groups (Chapelle & Sauro, 2017). It is suggested that: 1) before language teachers can effectively support their students' language acquisition, they need to understand how to integrate technology with the standards, goals, and subject matter of the curriculum; 2) teachers should be familiar with and able to use digital technology to foster students' capacity for critical thinking in areas such as problem solving, collaboration, and decision making; and 3) digital technology can be useful in a wide range of educational settings, and teachers should be able to incorporate it into their

lesson plans with the understanding that their students' needs and circumstances will inevitably change (Boonmoh et al., 2021; Uwizeyimana, 2018).

In terms of implications, this study highlights how vocational university teachers perceived digital technology integration in EFL classrooms. Generally, most of the teachers perceived favorably toward digital technology integration since the digital technology helps them in teaching and learning process, increases their creativity, benefits students in learning English, and supports their professional development. In this sense, teachers are encouraged to be actively integrated technology in EFL classrooms as it tends to bring more benefits. Further, the universities and the related policy makers should support the teachers' needs as several challenges regarding the infrastructure and teachers' and students' competencies in technology. They are still the main problems during the technology integration in the classroom.

Conclusion and Suggestion

Exploring teachers' perceptions of integrating digital technology for teaching EFL in a vocational university context has led to the conclusion that not all vocational university teachers perceived digital technology integration positively since some challenges happened in English language classrooms. Those challenges still arise, so some teachers cannot benefit from technology integration, and the potential assistance of technology still cannot be maximized. Several suggestions and crucial related issues have been discussed, so it is expected that both teachers and education policymakers of vocational higher education institutions could establish strategic plans to create a convenient environment for English language learning that finally benefits the students. Concerning teachers' professional development, it encourages improving teachers' digital competencies since teachers with experience using digital technology can act as a guide for their colleagues and a role model for their students, and knowledge is created through the transformation of experience (Kolb, 1984). As much as this study intend to offer, there are several limitations as this study only seek from teachers' perspectives. Future studies are suggested to explore the perspectives from students, school management, and educational policy makers of vocational institutions to get broader implications for effective teaching and learning process in vocational university.

References

- Aimah, S., Rukmini, D., Saleh, M., & Bharati, D. A. L. (2020). Pre-service English teachers' voices: what do they expect from a supervisor in a microteaching class? *Journal of Asia TEFL*, 17(3), 1039–1047. <https://doi.org/10.18823/asiatefl.2020.17.3.20.1039>
- Boonmoh, A., Jumpakate, T., & Karpklon, S. (2021). Teachers' perceptions and experience in using technology for the classroom. *Computer-Assisted Language Learning Electronic Journal (CALL-EJ)*, 22(1), 1–24. <http://callej.org/journal/22-1/Boonmoh-Jumpakate-Karpklon2021.pdf>
- Chapelle, C., & Sauro, S. (2017). *The handbook of technology and second language teaching and learning*. Wiley Blackwell.
- Crawford, J., Butler-henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., Magni, P. A., & Lam, S. (2020). Covid-19: 20 countries' higher education intra-period digital pedagogy responses. *Journal of Applied Learning & Teaching*, 3(1). <https://doi.org/10.37074/jalt.2020.3.1.7>
- Fathali, S., Marandi, S. S., & Okada, T. (2020). Beyond the language classroom: a case of Japanese EFL students' engagement with ICT. *Computer-Assisted Language Learning Electronic Journal (CALL-EJ)*, 21(2), 150–175. <http://callej.org/journal/21-2/Fathali-Marandi-Okada2020.pdf>
- Gavranović, V., & Prodanović, M. (2021). Esp teachers' perspectives on the online teaching environment imposed in the covid-19 era – a case study. *New Educational Review*, 64, 188–197. <https://doi.org/10.15804/tner.2021.64.2.15>
- Graça, V., Quadros-Flores, L. P., & Ramos, A. (2021). The challenges of initial teacher training. *International Journal of Emerging Technologies in Learning*, 16(18), 85–96. <https://doi.org/10.3991/ijet.v16i18.24237>
- Hazaea, A. N., & Alzubi, A. A. (2018). Impact of mobile assisted language learning on learner autonomy in EFL reading context. *Journal of Language and Education*, 4(2), 48–58. <https://doi.org/10.17323/2411-7390-2018-4-2-48-58>
- Irvine, J. (2019). Relationship between teaching experience and teacher effectiveness: implications for policy decisions. *Journal of Instructional Pedagogies*, 22(March), 1–19. <https://files.eric.ed.gov/fulltext/EJ1216895.pdf>
- Kasuma, S. A. A., Akhiar, A., Haron, H., Fesal, S. N. H. S., & Kadir, N. F. A. (2021). University students' perceptions of motivation, attitude, and self-efficacy in online English language learning. *Pertanika Journal of Social Sciences and Humanities*, 29(4), 2763–2784. <https://doi.org/10.47836/pjssh.29.4.36>
- Mahbub, M. A. (2018). English teaching in vocational high school: a need analysis. *JEELS (Journal of English Education and Linguistics Studies)*, 5(2), 229–258. <https://doi.org/10.30762/jeels.v5i2.835>
- Maming, K., Saleh, N. J., & Yassi, A. H. (2020). A preliminary study on teacher's voices: Their problems in ELT and content-based instruction (CBI). *Journal of Asia TEFL*, 17(2), 707–714. <https://doi.org/10.18823/asiatefl.2020.17.2.29.707>
- Nhu, P. T. T., Keong, T. C., & Wah, L. K. (2014). Issues and challenges in using ICT for teaching English in Vietnam. *Computer-Assisted Language Learning Electronic Journal (CALL-EJ)*, 20(3), 140–155. <http://callej.org/journal/20-3/Pham-Tan-Lee2019.pdf>
- OECD iLibrary. (2009). The professional development of teachers. In *Creating Effective Teaching and Learning Environments: First Results from TALIS*. The Organisation for Economic Cooperation and Development (OECD). <https://doi.org/10.1787/607807256201>
- Podolsky, A., Kini, T., & Darling-Hammond, L. (2019). Does teaching experience increase teacher effectiveness? a review of US research. *Journal of Professional Capital and Community*, 4(4), 286–308. <https://doi.org/10.1108/JPC-12-2018-0032>
- Pratiwi, D. I., Anggraeni, C. W., Tristiana, N. E., Amumpuni, R. S., & Sholikhah, M. (2023). Integrating task-based learning and ICT in reading and writing classes in hybrid setting. *Journal of Educational Research and Evaluation*, 7(2), 294–305.
- Pratiwi, D. I., Atmaja, D. S., & Prasetya, H. W. (2021). Multiple e-learning technologies on practicing TOEFL structure and written expression. *JEES (Journal of English Educators*

- Society), 6(1), 105–115. <https://doi.org/10.21070/jees.v6i1.1194>
- Pratiwi, D. I., Fitriati, S. W., Yuliasri, I., & Waluyo, B. (2024). Flipped classroom with gamified technology and paper - based method for teaching vocabulary. *Asian-Pacific Journal of Second and Foreign Language Education*, 9(1), 1–18. <https://doi.org/10.1186/s40862-023-00222-4>
- Pratiwi, D. I., & Ubaedillah, U. (2021). Digital vocabulary class in english for railway mechanical technology. *Teaching English with Technology*, 21(3), 67–88. <https://tewtjournal.org/download/digital-vocabulary-class-in-english-for-railway-mechanical-technology-by-damar-isti-pratiwi-and-ubaedillah-ubaedillah/>
- Pratiwi, D. I., Ubaedillah, U., Puspitasari, A., & Arifianto, T. (2022). Flipped classroom in online speaking class at Indonesian university context. *International Journal of Instruction*, 15(2), 697–714. <https://doi.org/10.29333/iji.2022.15238a>
- Pratiwi, D. I., & Waluyo, B. (2022). Integrating task and game-based learning into an online TOEFL preparatory course during the COVID-19 outbreak at two Indonesian higher education institutions. *Malaysian Journal of Learning & Instruction*, 19(2), 37–67. <https://doi.org/10.32890/mjli2022.19.2.2>
- Rahman, M., & Izzah, L. (2015). The power of storytelling in teaching English to young learners. *1st International Seminar Childhood Care and Education: Aisyah's Awareness on Early Childhood and Education*, August, 70–81. <https://www.researchgate.net/publication/324277772>
- Santosa, I., & Iskandar, I. (2023). Portrayal of professional digital competence (PDC) of English teacher: digital immigrant vs. native. *Journal of English Education and Teaching*, 7(2), 197–216.
- Schreier, M. (2012). *Qualitative content analysis in practice*. SAGE Publications Ltd.
- Shatri, K., Buza, K., & Bunjaku, F. (2021). Teachers' perception on the benefits of using online resources. *International Journal of Emerging Technologies in Learning*, 16(11), 289–307. <https://doi.org/10.3991/ijet.v16i11.21407>
- Stockwell, G. (2013). Technology and motivation in English-language teaching and learning. In *International Perspectives on Motivation* (pp. 156–175). https://doi.org/10.1057/9781137000873_9
- Sumarni, S., Iskandar, I., & Santosa, I. (2023). Assessing digital competence among pre-service language teachers: strengths and challenges. *Journal of Chemical Information and Modeling*, 7(3), 613–631.
- Tican, C., & Deniz, S. (2018). Pre-service teachers' opinions about the use of 21st century learner and 21st century teacher skills. *European Journal of Educational Research*, 8(1), 181–197. <https://doi.org/10.12973/eu-jer.8.1.181>
- Ulla, M. B., & Winitkun, D. (2018). In-service teacher training program in Thailand: teachers' beliefs, needs, and challenges. *Pertanika Journal of Social Sciences and Humanities*, 26(3), 1579–1594. <http://www.pertanika.upm.edu.my/pjssh/browse/regular-issue?article=JSSH-1943-2016>
- Uwizeyimana, V. (2018). Digital native (ness), mobile technologies and language proficiency in Rwanda. *Register Journal*, 11(2), 121–138. <http://dx.doi.org/10.18326/rgt.v11i2.121-138>
- Waluyo, B., & Bucol, J. L. (2021). The impact of gamified vocabulary learning using quizlet on low-proficiency students. *Computer Assisted Language Learning Electronic Journal (CALL-EJ)*, 22(1), 164–185. <http://callej.org/journal/22-1/Waluyo-Bucol2021.pdf>
- Waluyo, B., Min, F., & Castillo, V. V. (2022). Teaching English online in higher education : understanding the social climate of online academic English courses. *Australasian Journal of Educational Technology*, 38(6), 91–106. <https://doi.org/10.14742/ajet.7978>
- Zhao, Y., & Watterston, J. (2021). The changes we need: education post Covid-19. *Journal of Educational Change*, 22(1), 3–12. <https://doi.org/10.1007/s10833-021-09417-3>