Examining The Impact Of Technology Integration On Teachers' Digital Literacy And Teachers' Professional Competences In English As Foreign Language (Efl) Class

Eka Nurhidayat[1*], Januarius Mujiyanto[2],
Issy Yuliasri[3], Rudi Hartono[4]

[1*]Eka Nurhidayat, Department of English Language Program, Postgraduate Program Universitas Negeri Semarang, Email:
ekanurhidayat@unma.ac.id

[2,3,4]Department of English Language Program, Postgraduate Program Universitas Negeri Semarang.

Abstract

This research explores the impact of technology integration on teachers' digital literacy and professional competencies in English as a Foreign Language (EFL) classrooms. The study utilizes a mixed-methods approach, incorporating quantitative data analysis of survey responses and qualitative data analysis of in-depth semi-structured interviews. The findings reveal that teachers demonstrate varying levels of digital literacy, with the integration of technology positively influencing their digital literacy levels. There is a strong correlation between technology integration and teachers' professional competencies, indicating that effective technology integration enhances instructional practices and student engagement. The research identifies common challenges teachers face, such as limited access to resources and technical difficulties, and proposes strategies to overcome these challenges. The study emphasizes the importance of ongoing professional development programs, collaborative learning communities, and reflective practice in supporting teachers' digital literacy development and successful technology integration. The research contributes to the existing literature by providing empirical evidence of the benefits of technology integration in EFL classrooms. It highlights the need for comprehensive support and resources for teachers digital literacy growth. The findings inform educational institutions, policymakers, and teachers about the positive impact of technology integration on EFL education and underscore the significance of fostering a supportive environment that encourages continuous professional development and adaptability to change educational contexts.
Keywords: Technology integration, EFL, Digital Literacy, Teachers'

1. Introduction

With the advent of the digital era, integrating technology inteaching English as a Foreign Language (EFL) can play an essentialrole in the 21st-century classroom. In the field of language learning and teaching, technology has made its way into classrooms worldwide, creating transformative impacts on pedagogical practices. Tobergte & Curtis (2013) argued that The advent of digital technology had transformed traditional pedagogical methods and classroom settings. This is

especially evident in EFL classes, where technology integration is an important aspect of teaching and learning experiences. Particularly in teaching EFL, technology integration is a primary means of effective language teaching and learning (Godwin- Jones, 2015). Previously, EFL teaching primarily relied on traditional methods involving direct instruction and rote learning. However, as technological advancements revolutionized education, the potential for a more interactive, dynamic, and student-centered approach to EFL teaching has been increasingly recognized. Technology has provided novel opportunities for language learning beyond the four walls of a classroom, from digital resources like online language learning platforms to advanced tools such as virtual reality environments. The use of technology in EFL classes has implications for teachers' digital literacy - their ability to use digital tools and resources effectively, and their professional competencies (Koehler et al., 2013).Technology integration in EFL teaching encompasses incorporating digital tools and resources into the teaching process, creating an interactive, engaging, and learner-centered environment (Gilakjani, 2017). Utilization of such tools can augment language acquisition, improve students' motivation, and foster autonomous learning (Lai & Li, 2011). However, the effective integration of technology largely depends on the teacher's digital literacy and professional competencies (Egbert et al., 2002).

Based on the comprehensive literature review, a number of studies have begun to examine the benefits of technology integration in education. Studies such as those by Ertmer & Ottenbreit-Leftwich (2010) and Pegrum & Oakley (2013) have underscored the importance of technology in EFL instruction buthave not delved into sufficient depth regarding the roletechnology plays in enhancing teachers' digital literacy. This area,crucial for effectively navigating today's digital teaching landscape, requires more comprehensive exploration. Moreover,while Koehler et al. (2013) work on the Technological PedagogicalContent Knowledge (TPACK) framework acknowledge the significance of professional competencies in technology integration, it does not provide a detailed understanding of how these competencies unfold within the EFL context, particularly in terms of planning, instructional strategies, student evaluation, and classroom management. Research by Hew & Brush (2007) and Kopcha (2012) has identified several challenges to technology integration in EFL classrooms; there is a need for a more in-depth examination of these barriers, especially concerning teachers' digital literacy and professional competencies. Finally, while recognizing these barriers, there needs to be more literature about devising effective, research- backed strategies and solutions to overcome these challenges.

While research has explored various aspects of this topic, there needs to be a significant gap in understanding how teachers' digital literacy and professional competencies influence their ability to integrate technology effectively in EFL classes (Chai et al., 2010; Teo, 2011). As such, the problem under investigation in this study is the need for a comprehensive understanding of howteachers' digital literacy and professional competencies relate to successful technology integration in EFL classes. The use of technology in EFL teaching has been linked to improved student engagement, motivation, and learning outcomes (Lai & Li, 2011). However, successful technology integration is often contingent on teachers' abilities, skills, and competencies (Ertmer & Ottenbreit-Leftwich, 2010). Despite the significance of this relationship, previous research has primarily focused on either teachers' digital literacy or professional competencies in isolation. There need to be more studies investigating the

interaction between these two critical elements and how they collectively influence the successful integration of technology in EFL classes. This gap in the literature necessitates further research.

This study is of paramount importance due to the rapidly evolving nature of technology and its far-reaching implications on the education sector, specifically in EFL classes. Understanding how technology integration impacts teachers' digital literacy and professional competencies can equip us with crucial insights into teacher preparedness for this digital era, highlighting areas for further development and shaping educational policies. We can identify effective strategies and tools that significantly enhance the EFL educational experience by examining how technology influences teaching and learning outcomes. This study also allows us to delve into the barriers to successful technology integration, thereby addressing these challenges and paving the way for more effective, productive tech-enabled teaching. Finally, the insights drawn from this study will provide a robust foundation for future research and practices in technology integration, filling existing gaps in the literature and guiding the evolution of EFL instructionin the digital age. This study aims to investigate the impact of technology integration on teachers' digital literacy and professional competencies in English as a Foreign Language (EFL)classrooms.

1. Literature Review

1.1. The Role of Technology in EFL Teaching

A considerable amount of literature has been published on technology integration in EFL classes; technology functions as a double-edged sword. It offers multiple opportunities to bring the English language to life via interactive multimedia content, exposure to authentic language, and collaborative online activities. On the other hand, it places new demands on instructors regarding digital literacy and new teaching skills (Chen, 2016; Reinhardt, 2019; A. Al-Samiri, 2021). Technology integration in EFL teaching has been a recurring theme in educational research over the past few decades. The 21st Century has seen an increase in technological devices that have revolutionized education delivery (Teo et al., 2021; Reaves, 2019; Williamson et al., 2020). Technology integration in EFL classrooms has provided numerous benefits, such as improved resource access, enhanced student engagement, personalized learning experiences, and global collaboration. Technology has allowed EFL learners to interact with the English language outsideof the classroom, allowing them to practice their language skills using interactive online tools such as language apps, educationalvideos, and websites. Technology integration in EFL classrooms has also increased student motivation and engagement (Kuru Gönen, 2019; Alharthi, 2020; Jeong, 2019; Hakim, 2020). Students are more interested when technological devices are used in the classroom. Interactive whiteboards, tablets, and educational software have made learning more visually stimulating, creating an enjoyable learning environment for students. Technology integration has also enabled personalized learning experiences, giving each student control of their learningpace, time, and place (Arnesen et al., 2019; Kallio & Halverson, 2020; Alamri et al., 2021). Students now have diverse choices to choose from to suit their individual learning needs. The use of technology in EFL classrooms has resulted in a paradigm shift away from the traditional classroom environment and toward a more international setting. Technology has enabled global collaboration, enabling EFL learners to connect with other learners across the globe. This interaction has exposed EFL learners to different cultures, languages, and

perspectives, providing them with a global mindset, a crucial skill in the 21st Century.Education has been profoundly influenced by the revolution brought about by incorporating technology into the teaching and learning process during the covid-19 epidemic. The shift is especially true when teachers consider all the obstacles they have encountered due to COVID-19 (Dhawan, 2020). The developmentfrom face-to-face meetings to emergency instruction is offered remotely and, more recently, in a hybrid environment. These unanticipated changes have significantly impacted how people engage with technology. Combining this technology into our teaching and learning approaches is of utmost importance. During the pandemic, this vast array of technological integration is essential in maintaining jobs, studies, and relationships. These alterations are still a part of our daily lives, and some will continue to coexist in our conceptions of technology and education.

This depressing reality of a global epidemic has shed light on critical lessons that we have yet to learn about the expansive education technology (ed-tech) environment and how we use technology in our teaching (Selwyn, 2021). It is essential and of the utmost importance to look for and use new ways of learning and broadening one's knowledge by utilizing the various available technological tools. Education must be incorporated into this environment and become more ubiquitous in the everyday lives of everyone. The ability to control, manipulate, and articulate these tools into one's teaching techniques is essential for teachers. Having previous experience with these technologies is unnecessary to successfully implement them and foster effective learning environments (Henriques et al., 2021). Because of thesesame technologies, teachers must gain new abilities to teach andassist their students effectively.

In addition to enabling students to increase their knowledge, they must comprehend what they should do with the information provided to them in variousformats.

There are many different ways that technology can be integrated into the classroom, each with its potential to encourage the growth of skills and competencies appropriate for the 21stCentury. Cheung et al. (2021) state that digital technology facilitates individualized learning. Customized learning is improved through the use of a range of classroom-enhancing tools. According to Cheung et al. (2021), Digital technologies make it possible to teach and learn based on the qualities of boththe teacher and the learner. These capabilities are strengthened and improved by the preferences and features of the various information and communication technology instruments. Technology integration enables individual development, making it a wise decision that should be supported.

1.2. Digital Literacy and Professional Competences in the EFLClassroom Digital literacy is using digital technology to use, understand, evaluate, and create information (Gilster & Watson, 1999). Teachers' digital literacy can be a critical determinant of the effective integration of technology in EFL classes (Kabilan et al., 2010). Technologically literate teachers are more likely to implement digital resources effectively, leading to more dynamic and interactive lessons (Pegrum & Oakley, 2013). Meanwhile, professional competencies encompass a teacher's ability to deliver effective teaching, including pedagogical skills, content knowledge, classroom management,

and reflective practices. EFLteachers operate in a unique context that demands specific skillsand knowledge. They must address the challenges of teaching English to non-native speakers, making it crucial to leverage all possible tools, including technology. Professional competencies refer to the knowledge, skills, attitudes, and values professionalsmust possess to perform their tasks effectively (Goodwin, 2017). In EFL teaching, professional competencies include content knowledge, pedagogical skills, interpersonal skills, and the ability to adapt to new technologies (Darling-Hammond & Bransford, 2012). Successful technology integration in EFL classes necessitates a high degree of professional competency. There is a symbiotic relationship between technology integration, teachers' digital literacy, and professional competencies. A high degree of digital literacy and professional competencies among teachers leads to more effective technology integration, improving teaching practices and learning outcomes (Ertmer & Ottenbreit-Leftwich, 2010). Likewise, integrating technology into teaching practices can enhance teachers' digital literacy and professional competencies by encouraging continual learning and adaptation to technological advancements (Farjon et al., 2019).

1.3. The Impact of Technology Integration on Digital Literacy and Professional Competence

Technology integration in EFL classrooms necessitates teachers to enhance their digital literacy (Alakrash & Razak, 2021; Eryansyah et al., 2019). They must learn to use and troubleshoot various digital tools, platforms, and resources, such as interactivewhiteboards, language learning apps, and online assessment tools. This technological integration has dual effects. Positively, it encourages teachers to remain abreast of the most recent digitaltrends and enhance their technical abilities. They become perpetual learners who constantly adapt to the digital age. Negatively, the rapid development of technology may overwhelm some educators, resulting in tension and resistance due to a sense of inadequacy or the steep learning curve associated with new technologies (Brous et al., 2020). Technology also significantly impacts teachers' professional competencies. It enables them to apply innovative teaching methods and strategies, improving their pedagogical competence (König et al., 2020). For instance, technology can transform traditional teacher-centered instruction into a more engaging, student-centered approach. Teachers can leverage online platforms for collaborative tasks, use multimedia resources to stimulate students' interest, or employ adaptive learning systems for personalized instruction.

Moreover, technology can aid teachers in improving their content knowledge (Tondeur et al., 2020). Access to a vast digitalrepository of resources helps teachers broaden their understanding of English language teaching methodologies, theories, and practices. Additionally, technology supports teachers in improving their classroom management skills, such as tracking student progress, giving real-time feedback, and managing online classroom dynamics (Theelen et al., 2019). However, while technology brings new dimensions to teaching competencies, it also presents challenges. Teachers may struggle to adapt their teaching style to the digital environment or manage online classroom behavior effectively. Furthermore, concerns regarding data privacy, cyberbullying, and digital equityissues underscore the need for increased competence in digital citizenship and ethics.

Technology integration in EFL teaching has profound implicationsfor teachers' digital literacy and professional competencies.While it offers numerous opportunities for enhanced teaching and learning, it also brings new challenges teachers must navigate. Therefore, providing ongoing professional development programs and support for EFL teachers is essential. These initiatives can help them keep pace with technological advancements, refine their digital literacy, and strengthen their professional competencies, ultimately improving the quality of EFL instruction in the digital age.

2. Method

This study adopts a mixed-methods approach to explore the relationships between technology integration, digital literacy, and teachers' professional competencies in EFL classrooms. The rationale for using a mixed-methods approach is to combine the strengths of both qualitative and quantitative methods to providea holistic understanding of the research topic (Dawadi & Giri, 2021).

2.1. Participant

Twenty EFL teachers from English Teachers Forum (ETF) were recruited for this study. The participants were recruited from theEnglish Teachers Forum (ETF), which had diverse years of experience, from novice to experienced teachers. The sample sizewas determined based on saturation – when no new or relevant information seems to emerge with additional data collection.

2.2. Data Collection Instruments

A structured survey will be developed to collect quantitative dataon teachers' digital literacy and professional competencies. The questionnaire will include items related to teachers' proficiency in using technology tools, their perceptions of technology integration, and the impact on their teaching practices. Likert- scale and multiple-choice questions will be utilized. In-depth semi-structured interviews will be conducted with a subset of teachers to gain deeper insights into their experiences, challenges, and perceptions regarding technology integration. The interviews will explore factors influencing teachers' digital literacy development, their perceived impact on professional competencies, and strategies to overcome challenges.

2.3. Data Analysis

The collected survey data will be analyzed using appropriate statistical techniques such as descriptive statistics, correlation analysis, and regression analysis. This analysis will providequantitative measures of teachers' digital literacy levels, professional competencies, and the relationships between variables. The interview data will be transcribed and analyzed using thematic analysis. The themes and patterns that emerge from the qualitative data will be identified, coded, and organized into meaningful categories, providing a rich understanding of theimpact of technology integration on teachers' digital literacy andprofessional competencies.

2.4. Reserach Process

The research process for examining the impact of Technology Integration in EFL class on Teachers' Digital Literacy andProfessional Competence involves several key steps. Firstly, the research objectives are defined, focusing on understanding the relationship between technology integration, digital literacy, andprofessional

competences. A comprehensive literature review is conducted to identify relevant themes and research gaps. A mixed-methods research design is adopted, combining quantitative and qualitative data collection methods. Surveys areadministered to collect quantitative data on digital literacy and professional competences, while in-depth semi-structured interviews are conducted to gain deeper insights into teachers' experiences and perceptions. The collected data is then analyzed using appropriate statistical techniques and qualitative analysis methods. The findings from both phases are integrated to provide a comprehensive understanding of the research topic. A discussion of the findings in relation to the literature, along with conclusions and recommendations, is presented. Figure 1 shows the reserach process.
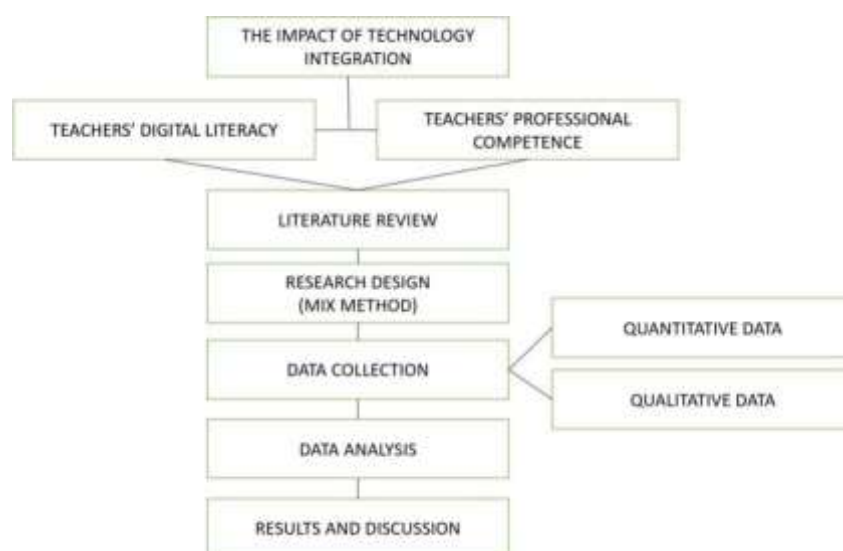

Figure. 1. Reserach Process

3. Findings

3.1. Quantitative Data

The research findings revealed significant insights into the impact of technology integration on teachers' digital literacy and professional competencies in EFL classrooms. Table 1 provides the results from the quantitative data analysis of the impact of Technology Integration in EFL classes on teachers' digital literacyand professional competence. The results from the quantitative and qualitative data analysis are presented below:

Table 1. Results of Quantitative Data Analysis

Statistical Analisis	Findings
Descriptive Statistics	
Mean Digital Literacy Leve l	3.67 (Moderate Proficiency)
Standard Deviation of Digital Literacy Leve l	0.89
Mean Professiona l Competence Leve l	4.12 (High Level)
Standard Deviation of Professional Competence Leve l	0.76

Correlation Analysis

Correlation between Technology Integration and Digital Literacy	0.64 (p < 0.01)
Correlation between Technology Integration and Professional Competences	0.72 (p < 0.01)
Regression Analysis	
Significant Predictors in the Multiple Regression Model	
Technology Integration	β = 0.61, p < 0.01
Digital Literacy Levels	β = 0.34, p < 0.05
Prior Training	β = 0.28, p < 0.05
Ears of Teaching Experience	β = 0.21, p < 0.05

Descriptive statistics were calculated to summarize the quantitative data on teachers' digital literacy and professional competencies. The mean digital literacy level of the teachers inthe sample was 3.67 on a scale of 1 to 5, indicating moderate proficiency overall. The standard deviation was 0.89, suggesting a considerable variation in digital literacy levels among the teachers.

The mean professional competence level of the teachers was

4.12 on a scale of 1 to 5, indicating a high level of professional competencies overall. Standard Deviation of Professional Competence Level: The standard deviation was 0.76, indicating arelatively narrow distribution of professional competence levels among the teachers.

Correlation analysis examined the relationship between technology integration and teachers' digital literacy levels and professional competencies. The results revealed the following:

1. Correlation between Technology Integration and Digital Literacy:A positive and statistically significant correlation coefficient of

0.64 (p < 0.01) was found, indicating a moderate to strong positive relationship between technology integration and teachers' digital literacy levels. As teachers integrate technology more effectively, their digital literacy levels tend to increase.

2. Correlation between Technology Integration and Professional Competences: A positive and statistically significant correlation coefficient of 0.72 (p < 0.01) was found, indicating a strong positive relationship between technology integration and teachers' professional competencies. This suggests that their professional competencies improve as teachers integrate technology more

effectively.

Regression analysis was conducted to explore the predictive relationship between technology integration and teachers' professional competencies, considering other relevant factors. The results indicated the following:

1. Multiple Regression Model: The multiple regression model was statistically significant (F = 39.82, p < 0.01), suggesting that the predictors significantly impacted teachers' professional competencies.

2. Predictor Variables: Among the predictor variables, technology integration (β = 0.61, p < 0.01) emerged as a significant predictor of professional competencies. This indicates that effective technology integration positively influences teachers'professional competencies.

3. Other Factors: Additionally, variables such as digital literacy levels

(β = 0.34, p < 0.05), prior training (β = 0.28, p < 0.05), and yearsof teaching experience (β = 0.21, p < 0.05) were also found to besignificant predictors of professional competences. This suggeststhat these factors contribute to the variation in teachers' professional competencies and technology integration.

The quantitative data analysis revealed that technology integration was positively associated with teachers' digital literacy levels and professional competencies in EFL classrooms. The findings suggest that effective technology integration contributes to higher digital literacy levels and enhances teachers' professional competencies. Moreover, the regression analysis demonstrated that technology integration and other factors such as digital literacy, prior training, and teaching experience significantly predict teachers' professional competencies.

3.2. Qualitative Data

The in-depth semi-structured interviews provided valuable insights into teachers' experiences, challenges, and perceptions regarding technology integration in EFL classrooms. Table 2 below illustrates the following key results that emerged from theinterviews:

Table 2. Results of Qualitative Data

Interview Themes	Key Findings
1. Experiences with Technology Integration	- Diverse experiences: Participants varied in their confidence and enthusiasm,initial reservations, or seeking support.
2. Benefits of Technology Integration	- Increased engagement: Participants observed higher student engagement and motivation.

		- Access to resources: Technology integration provided improved access to authentic language resources.
		- Interactive and Collaborative learning: Technology integration facilitated interactive and collaborative learning.
3. Challenges and Strategies		- Common challenges: Limited resource access, technical issues, and time constraints.

		- Strategies employed: Collaboration, seeking support from experts, and sharing best practices.
4. Pedagogica l Transformation		- Shift to student-centered approaches: Technology integration led to a shift inteaching practices.
		- Use of digital tools and multimedia resources: Participants utilized various technology tools for interactive lessons.
5. Professiona l Growth and Adaptability		- Continuous professional growth: Technology integration contributed to participants' professional development.
		- Adaptability to changing contexts: Participants emphasized reflection and adaptation to emerging technologies.

Overall, the interviews revealed the transformative impact of technology integration on EFL teaching practices, highlighting benefits such as increased engagement, access to resources, and student-centered instruction. The challenges mentioned by participants were addressed through collaboration and support networks. The interviews emphasized the importance of ongoing professional development and adaptability to emerging technologies and evolving educational contexts. In the qualitative interviews, teachers expressed the importance of digital literacy in using technology for EFL teaching. They pointed out that understanding how to

use different digital tools made their lessons more engaging and interactive. Teachers also highlighted that their professional competencies, such as pedagogical skills and content knowledge, were crucial for deciding when and how to use technology effectively in their classrooms.

4.   Discussion

Several reports have shown the impact of technology integrationon teachers' digital literacy and professional competencies in EFLclassrooms. The results provide valuable insights into the experiences, benefits, challenges, and strategies reported by teachers and the transformative nature of technology integration. As mentioned in the literature review, emphasizing the significance of digital literacy and the role of technology in enhancing teaching practices and student learning outcomes in EFL classes.

The study found that digital literacy levels among teachers indicate moderate proficiency overall. This aligns with previous studies highlighting the need for continuous professional development programs and training to enhance teachers' digital literacy skills (Ertmer & Ottenbreit-Leftwich, 2010). The positive correlation between technology integration and digital literacy levels supports the literature suggesting that engaging with technology tools and resources contributes to teachers' digital literacy (Ertmer et al., 2012; Koehler et al., 2013). This finding emphasizes the importance of ongoing support and training to enhance teachers' digital literacy competencies, enabling them to integrate technology into their instructional practices effectively.

A strong relationship between technology integration and teachers' professional competencies has been reported in the literature. It aligns with previous research that underscores the transformative impact of technology on teaching practices (Hew& Brush, 2007; Law, 2008). Technology integration allows teachers to adopt student-centered approaches, promote interactive and collaborative learning, and personalize instruction(Chen & Tsai, 2021). The findings highlight the positive influence of technology integration on student engagement, motivation, and language proficiency, consistent with the literature emphasizing the benefits of technology-enhanced instruction in EFL classrooms (Alawadhi & Abu-awash, 2021; Kim, 2018). The challenges reported by teachers, such as limited access to resources and technical difficulties, are consistent with the existing literature (Ertmer et al., 2012; Hew & Brush, 2007).Strategies employed by teachers, including collaboration, seeking support, and sharing best practices, reflect the importance of fostering a supportive school culture and professional learning networks (X. Zhang et al., 2021). These findings reinforce the need for educational institutions to provide adequate resources, technical support, and professional development opportunities to overcome the challenges associated with technology integration (Ertmer et al., 2012; Law, 2008).

The findings related to pedagogical transformation highlight the shift from teacher-centered to student-centered approaches facilitated by technology integration. This aligns with the literature advocating learner-centered instruction in EFL classrooms (Zhang et al., 2021; Chen & Tsai, 2021; Mcpherson, 2020). Teachers' use of digital tools and multimedia resources corresponds to the literature emphasizing the value of authentic materials and interactive technologies in language learning (Kumar et al., 2019; Shlowiy

& Lidawan, 2019; Deifell & Angus, 2022). The findings regarding professional growth and adaptability resonate with the literature emphasizing the importance of reflective practice and continuous professional development in technology integration (Ertmer et al., 2012; Hew& Brush, 2007). Teachers' recognition of the need to adapt to changing educational contexts and emerging technologies aligns with the literature highlighting the dynamic nature of technology and the necessity of remaining responsive to new advancements.

Overall, the research findings are consistent with the existing literature, demonstrating the positive impact of technology integration on teachers' digital literacy and professional competencies in EFL classrooms. The study reinforces the importance of providing comprehensive professional development programs, fostering a supportive school culture, and encouraging reflective practice to ensure successful technology integration in EFL education. The findings highlight the need for ongoing support and training to enhance teachers' digital literacy skills and their ability to integrate technology into their instructional practices effectively. The results also underscore the benefits of technology integration in EFL classrooms, including increased student engagement, improved access to authentic language resources, and opportunities for interactive and collaborative learning. These findings align with the literature on technology-enhanced language learning, emphasizing the positive impact of technology on student motivation, language proficiency, and individualized instruction.

Additionally, the challenges reported by teachers, such as limited access to resources and technical difficulties, reinforce the need for adequate support and resources to address these barriers. Collaborative approaches, seeking support from technology experts, and sharing best practices emerged as effective strategies for overcoming these challenges. These findings align with the literature advocating for a supportive school culture, professional learning communities, and ongoing teacher collaboration to foster successful technology integration. The pedagogical transformation observed through technology integration, shifting toward student-centered approaches and using digital tools and multimedia resources, is consistent with the literature emphasizing learner-centered instruction and the benefits of authentic materials in language learning. The findings highlight the importance of selecting appropriate technology tools and platforms based on pedagogical goals and student needs, aligning with the literature's emphasis on the thoughtful integration of technology in instructional design.

Furthermore, the findings regarding professional growth and adaptability reflect the evolving nature of technology and the need for teachers to engage in reflective practice, continuous professional development, and adapt their instructional strategies to changing educational contexts. These findings align with the literature emphasizing the importance of ongoing learning, staying updated with new technologies, and being responsive to the evolving needs of learners. The present study contributes to the existing literature by providing empirical evidence of the impact of technology integration on teachers' digital literacy and professional competencies in EFL classrooms. The findings emphasize the need for educational institutions to prioritize comprehensive professional development programs, allocate resources for technology infrastructure, and foster a supportive environment that promotes collaboration and reflective practice among teachers.

In conclusion, the research findings support the existing literature by highlighting the positive impact of technology integration on teachers' digital literacy and professional competencies in EFL classrooms. The study underscores the need for ongoing support, professional development, and collaboration to ensure successful technology integration. By embracing technology effectively, teachers can enhance student engagement, improve learning outcomes, and create dynamic and interactive language learning environments.

5. Conclusion

The research findings provide valuable insights into the impact oftechnology integration on teachers' digital literacy and professional competencies in English as a Foreign Language (EFL) classrooms. The study revealed that technology integration positively influences teachers' digital literacy levels, professional competencies, and instructional practices, increasing student engagement and improved learning outcomes.The findings underscore the importance of ongoing professional development programs, collaborative learning communities, andsupportive school culture in enhancing teachers' digital literacy skills and facilitating successful technology integration. Adequateaccess to resources, technical support, and training opportunitiesis crucial in overcoming the challenges associated with technology integration in EFL classrooms. The study contributes to the existing literature by reinforcing the benefits of technology integration, such as increased student motivation, access to authentic language resources, and the promotion of learner- centered approaches.

The findings align with previous research highlighting the transformative potential of technology in language education. Educational institutions and policymakers should prioritize providing comprehensive support and resources to facilitate teachers' digital literacy development and foster their professional growth in technology integration. Ongoing professional development programs should address the specific needs of EFL teachers, promoting the effective use of technology tools and instructional strategies tailored to language learning contexts. To maximize the impact of technology integration, teachers should engage in reflective practice, continuously update their digital literacy skills, and adapt their instructional approaches to meet the evolving needs of their students. Collaboration among teachers, sharing best practices, and learning from one another's experiences play a vital role in fostering successful technology integration.

In conclusion, the research highlights the positive impact of technology integration on teachers' digital literacy and professional competencies in EFL classrooms. The findings emphasize the need for ongoing support, professional development, and collaborative efforts to ensure effective technology integration and enhance student learning experiences. By embracing technology as a tool for instructional enhancement, EFL teachers can create dynamic and engaging language learning environments that foster student engagement,promote language acquisition, and prepare learners for the demands of the digital age.

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7.   References

A. Al-Samiri, R. (2021). English Language Teaching in KSA in Response to the COVID-19 Pandemic: Challenges and Positive Outcomes. Arab World English Journal, 1, 147–159. https://doi.org/10.24093/awej/covid.11

Alakrash, H. M., & Razak, N. A. (2021). Technology-based language learning: Investigation of digital technology and digital literacy. Sustainability (Switzerland), 13(21).https://doi.org/10.3390/su132112304

Alamri, H. A., Watson, S., & Watson, W. (2021). Learning Technology Models that Support Personalization within Blended Learning Environments in Higher Education. TechTrends, 65(1), 62–78. https://doi.org/10.1007/s11528-020-00530-3

Alawadhi, A., & Abu-ayyash, E. A. S. (2021). Students ' perceptions of Kahoot ! : An exploratory mixed-method study in EFL undergraduate classrooms in the UAE.

Alharthi, S. (2020). Assessing Kahoot's Impact on EFL Students' Learning Outcomes. TESOL International Journal, 15(5), 31–57. Arnesen, K. T., Graham, C. R., Short, C. R., & Archibald, D. (2019). Experiences with personalized learning in a blended teaching course for preservice teachers. Journal of Online Learning Research, 5(3), 251– 274. https://www.learntechlib.org/primary/p/210637/

Baghoussi, M., & El Ouchdi, I. Z. (2019). The Implementation of the Project-Based Learning Approach in the Algerian EFL Context: Curriculum Designers' Expectations and Teachers' Obstacles. Arab World English Journal, 10(1), 271–282. https://doi.org/10.24093/awej/vol10no1.23

Brous, P., Janssen, M., & Herder, P. (2020). The dual effects of the Internet of Things (IoT): A systematic review of the benefits and risks of IoT adoption by organizations. International Journal of Information Management, 51(September 2018), 1–17. https://doi.org/10.1016/j.ijinfomgt.2019.05.008

Chai, C. S., Koh, J. H. L., & Tsai, C. C. (2010). Facilitating preservice teachers' development of technological, pedagogical, and content knowledge (TPACK). Educational Technology and Society,13(4), 63–73.
https://www.researchgate.net/publication/220374011%0D
Chen, C., & Tsai, C. (2021). Computers & Education In-service teachers ' conceptions of mobile technology-integrated instruction : Tendency towards student-centered learning. Computers & Education, 170(August 2020), 104224.
https://doi.org/10.1016/j.compedu.2021.104224

Chen, J. C. C. (2016). The crossroads of English language learners, task-based instruction, and 3D multi-user virtual learning in Second Life. Computers and Eucation, 102, 152–171.
https://doi.org/10.1016/j.compedu.2016.08.004
Cheung, S. K. S., Kwok, L. F., Phusavat, K., & Yang, H. H. (2021). Shaping the

future learning environments with smart elements: challenges and opportunities. International Journal of Educational Technology in Higher Education, 18(1), 1–9. https://doi.org/10.1186/s41239-021-00254-1

Darling-Hammond, L., & Bransford, J. (2012). Preparing Teachers for a Changing World extract.pdf. In Le (Ed.), Preparing Teachers for a Changing World: What teachers should learn and be able to do (pp. 205–208).

Dawadi, S., & Giri, R. A. (2021). Mixed-Methods Research : A Discussion on its Types , Challenges , and Criticisms. 25–36.

Deifell, E., & Angus, K. (2022). Facilitating technology-based character learning in emergency remote teaching. February 2021, 72–97. https://doi.org/10.1111/flan.12541

Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID- 19 Crisis. Journal of Educational Technology Systems, 49(1), 5–22. https://doi.org/10.1177/0047239520934018

Egbert, J., Paulus, T. M., & Nakamichi, Y. (2002). The impact of call instruction on classroom computer use: A foundation for rethinking technology in teacher education. Language Learning and Technology, 6(3), 108–126. http://llt.msu.edu/vol6num3/egbert/%0ASeptember

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010a). Teacher technologychange: How knowledge, confidence, beliefs, and culture intersect. Journal of Research on Technology in Education, 42(3), 255–284. https://doi.org/10.1080/15391523.2010.10782551

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010b). Teacher Technology

Change. Journal of Research on Technology in Education, 42(3), 255–284. https://doi.org/10.1080/15391523.2010.10782551 Ertmer, P. A., Ottenbreit-leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Computers & Education Teacher beliefs andtechnology integration practices : A critical relationship. Computers &

Education, 59(2), 423–435.

https://doi.org/10.1016/j.compedu.2012.02.001

Eryansyah, E., Erlina, E., Fiftinova, & Nurweni, A. (2019). EFL Students' Needs of Digital Literacy to Meet the Demands of 21st Century Skills. Online-Journal.Unja.Ac.Id, 3(2), 2580–5711. https://online-journal.unja.ac.id/irje/article/view/8297

Farjon, D., Smits, A., & Voogt, J. (2019). Technology integration of pre-service teachers is explained by attitudes and beliefs, competency, access, and experience. Computers and Education, 130, 81–93. https://doi.org/10.1016/j.compedu.2018.11.010

Gilakjani, A. P. (2017). A Review of the Literature on the Integration of Technology into the Learning and Teaching of English Language Skills. International Journal of English Linguistics, 7(5), 95. https://doi.org/10.5539/ijel.v7n5p95

Gilster, P., & Watson, T. (1999). Digital Lit eracy by by. Meridian: AMiddle School Computer Technologies Journal, 141. https://www.academia.edu/1354072/Digital_Literacy?bulkDow

nload=thisPaper-topRelated-sameAuthor-citingThis-
citedByThis-secondOrderCitations&from=cover_page

Godwin-Jones, R. (2015). Emerging technologies. Language Learning & Technology, 19(3), 8–20. https://doi.org/10.1007/978-0-387- 36699-9_43

Hakim, B. (2020). Technology Integrated Online Classrooms and the Challenges Faced by the EFL Teachers in Saudi Arabia during the COVID-19 Pandemic. International Journal of Applied Linguistics and English Literature, 9(5), 33. https://doi.org/10.7575/aiac.ijalel.v.9n.5p.33

Henriques, S., Correia, J. D., & Dias-Trindade, S. (2021). Portuguese primary and secondary education in times of covid-19 pandemic:An exploratory study on teacher training and challenges. Education Sciences, 11(9). https://doi.org/10.3390/educsci11090542

Hew, K. F., & Brush, T. (2007). Integrating technology into K-12 teaching and learning: Current knowledge gaps and recommendations for future research. Educational Technology Research and Development, 55(3), 223–252. https://doi.org/10.1007/s11423-006-9022-5

Jeong, K. (2019). Online Collaborative Language Learning for Enhancing Learner Motivation and Classroom Engagement. International Journal of Contents, 15(4), 89–96.

Kabilan, M. K., Ahmad, N., & Abidin, M. J. Z. (2010). Facebook: An online environment for learning of English in institutions of highereducation? Internet and Higher Education, 13(4), 179–187. https://doi.org/10.1016/j.iheduc.2010.07.003

Kallio, J. M., & Halverson, R. (2020). Distributed leadership for personalized learning. Journal of Research on Technology in Education, 52(3), 371–390. https://doi.org/10.1080/15391523.2020.1734508

Kim, V. (2018). Technology-Enhanced Feedback on Student Writing in the English-Medium Instruction Classroom. 73(4), 29–53. https://doi.org/10.15858/engtea.73.4.201812.29

Koehler, M. J., Mishra, P., & Cain, W. (2013). What is Technological Pedagogical Content Knowledge (TPACK)? Journal of Education, 193(3), 13–19. https://doi.org/10.1177/002205741319300303

König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany. European Journal of Teacher Education, 43(4), 608– 622. https://doi.org/10.1080/02619768.2020.1809650

Kopcha, T. J. (2012). Teachers' perceptions of the barriers to technology integration and practices with technology under situated professional development. Computers and Education, 59(4), 1109–1121. https://doi.org/10.1016/j.compedu.2012.05.014

Kumar, S., Martin, F., Budhrani, K., & Ritzhaupt, A. (2019). Award-Winning Faculty Online Teaching Practices : Elements of Award-Winning Courses. Online Learning, 23(4), 160–180. https://doi.org/10.24059/olj.v23i4.2077

Kuru Gönen, S. İ. (2019). A qualitative study on a situated experience of technology integration: reflections from pre-service teachers and students. Computer Assisted Language Learning, 32(3), 163–189. https://doi.org/10.1080/09588221.2018.1552974

Lai, C., & Li, G. (2011). Technology and task-based language teaching: A critical review. CALICO Journal, 28(2), 498–521. https://doi.org/10.11139/cj.28.2.498-521

Law, J. (2008). On sociology and STS. 4(1973). Mcpherson, P. J. (2020). " A metamorphosis of the educator ": A hermeneutic phenomenology study of the perceptions and lived experiences of the 6 – 12 educator in transitioning from teacher-centered to student-centered learning. May, 1–11. https://doi.org/10.1002/cbe2.1230

Pegrum, M., & Oakley, G. (2013). Las escuelas se vuelven móviles: un estudio sobre la adopción de tecnologías portátiles en las escuelas independientes de Australia Occidental. Revista Australasia de Tecnología Educativa, 29(1), 66–81.

Reaves, J. (2019). 21St-Century Skills and the Fourth Industrial Revolution: A Critical Future Role for Online Education. International Journal on Innovations in Online Education, 3(1). https://doi.org/10.1615/intjinnovonlineedu.2019029705

Reinhardt, J. (2019). Social media in second and foreign language teaching and learning: Blogs, wikis, and social networking.

Language Teaching, 52(1), 1–39. https://doi.org/10.1017/S0261444818000356

Selwyn, N. (2021). Ed-Tech Within Limits: Anticipating educational technology in times of environmental crisis. E-Learning and Digital Media, 18(5), 496–510. https://doi.org/10.1177/20427530211022951

Shlowiy, A. Al, & Lidawan, M. W. (2019). Incorporating Authentic Materials and Digital Taxonomy in Teaching English : Pragmatic Innovation Through Integrative CALL. 9(6), 292–308. https://doi.org/10.5539/ijel.v9n6p292

Teo, T. (2011). Factors influencing teachers' intention to use technology 1. Computers & Education, 57(4), 2432-2440., 57(4), 2432–2440. https://d1wqtxts1xzle7.cloudfront.net/35739921/CAE-Factors_influencing_teachers_intention_to_use_technology.pdf?1417035517=&response-content-disposition=inline%3B+filename%3DFactors_influencing_teachers_intention_t.pdf&Expires=1608768133&Signature=In4HLur

Teo, T., Unwin, S., Scherer, R., & Gardiner, V. (2021). Initial teacher training for twenty-first-century skills in the Fourth Industrial Revolution (IR 4.0): A scoping review. Computers and Education, 170(April), 104223. https://doi.org/10.1016/j.compedu.2021.104223

Theelen, H., van den Beemt, A., & Brok, P. den. (2019). Classroom simulations in teacher education to support preservice teachers'

interpersonal competence: A systematic literature review. Computers and Education, 129, 14–26. https://doi.org/10.1016/j.compedu.2018.10.015

Tobergte, D. R., & Curtis, S. (2013). Teaching in a digital age. Journal of Chemical Information and Modeling, 53(9), 1689–1699. https://doi.org/10.1017/CBO9781107415324.004

Tondeur, J., Scherer, R., Siddiq, F., & Baran, E. (2020). Enhancing pre- service teachers' technological pedagogical content knowledge (TPACK): a mixed-method study. Educational Technology Research and Development, 68(1), 319–343. https://doi.org/10.1007/s11423-019-09692-1

Zhang, J., Chen, Z., Ma, J., & Liu, Z. (2021). Investigating the Influencing Factors of Teachers ' Information and Communications Technology- Integrated Teaching Behaviors toward " Learner- Centered " Reform Using Structural Equation Modeling.

Zhang, X., Wong, J. L. N., & Wang, X. (2021). Professional Developmentin Education How do the leadership strategies of middle leaders affect teachers ' learning in schools ? A case study from China. Professional Development in Education, 00(00), 1–18. https://doi.org/10.1080/19415257.2021.1895284