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Iranian EFL Teachers' Perceptions of a Digital Literacy-Based Teacher Education

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A B S T R A C T

This study aims to explore Iranian EFL teachers' perceptions of a digital literacy-based teacher education program in light of the increasing integration of digital technologies into language teaching. A grounded theory design was employed to explore the perceptions of 50 Iranian EFL teachers, selected through convenience sampling from virtual networks. Participants, holding B.A., M.A., or Ph.D. degrees in TEFL, English Literature, or English Translation, engaged in semi-structured interviews and submitted audio-reflective journals. These qualitative data were analyzed using manual thematic analysis, incorporating open, axial, and selective coding to identify emergent themes related to digital literacy within teacher education. Analysis revealed a range of themes that reflect teachers' conceptualization of digital literacy in teacher education. These included competencies such as digital information searching, digital interaction, information sharing, collaboration, content creation, familiarity with software and hardware, digital problem-solving, use of Word and PowerPoint, general computer skills, and the integration of technology for educational purposes. Other significant areas highlighted were protecting digital devices and content, identifying students' digital needs, and the creative use of digital technologies. While many of these themes align with findings from previous studies, the emphasis on identifying digital needs and creative engagement with technology emerged as unique contributions of this study. The study underscores the multifaceted nature of digital literacy in the context of EFL teacher education and the need for systematic inclusion of digital competencies in teacher training programs. Insights from the findings suggest that teacher education systems must evolve to equip teachers with essential digital skills to meet the demands of modern language instruction effectively.

Keywords: *digital literacy, EFL teacher education, Iranian teachers, qualitative research, teacher perceptions, digital competence, grounded theory.*

1. Introduction

In the 21st century, the rapid advancement of digital technologies has profoundly transformed the landscape of education, prompting a re-evaluation of traditional teaching paradigms and competencies. Within this evolving context, digital literacy has emerged as a pivotal skill for both learners and educators, particularly in English as a Foreign Language (EFL) settings where technological integration is increasingly becoming a necessity rather than a luxury. The significance of equipping teachers with digital literacy competencies is underscored by its potential to enhance pedagogical practices, foster learner engagement, and support the development of autonomous learning environments (Fishman et al., 2016; Godwin-Jones, 2021; Reinders & White, 2016). As the educational ecosystem becomes more reliant on digital tools, the role of teacher education in embedding digital literacy into its foundational framework is more critical than ever (Dashtestani & Hojatpanah, 2020; Mokhtari, 2023).

Digital literacy, while broadly defined as the ability to use digital technologies to access, manage, evaluate, and create information, is more nuanced when applied to the context of EFL education. It extends beyond technical skills to encompass critical thinking, ethical considerations, creative application, and pedagogical integration (Chew & Ng, 2021; Gilakjani, 2017; Martin & Madigan, 2006). This multifaceted nature of digital literacy necessitates that teacher education programs go beyond surface-level training in tools and applications, and instead foster a deeper engagement with the cognitive and sociocultural dimensions of digital competency (Herrera-Pavo, 2021; Selfa-Sastre et al., 2022). In EFL settings, where teachers often serve as linguistic and cultural mediators, digital literacy becomes instrumental in providing access to authentic materials, interactive platforms, and communicative tools that can enhance language acquisition and intercultural awareness (Nguyen & Habók, 2021; Panagiotidis, 2021).

Despite growing global attention to the integration of digital literacy into education, numerous challenges persist, particularly in developing contexts such as Iran. These include insufficient infrastructure, lack of access to updated technologies, limited institutional support, and a gap between policy and practice (Nurhidayat et al., 2023; Rahmah et al., 2021; Tewathia et al., 2020). Moreover, there is often a mismatch between teachers' digital proficiency and the expectations imposed by rapidly digitizing educational systems (Abedi, 2023; Heidari & Tabatabaee-Yazdi, 2021). Research shows that while many Iranian EFL teachers recognize the value of digital tools in their pedagogy, they frequently report low levels of confidence and preparedness to implement such technologies effectively in their teaching practices (Bodaghi & Ghapanchi, 2023; Namdari & Sahragard, 2021).

These concerns point to the necessity of reimagining teacher education through the lens of digital literacy, particularly within the Iranian EFL context. Digital literacy-based teacher education can serve as a catalyst for both pedagogical innovation and professional development. Such education programs can help bridge the existing digital divide and empower teachers to function effectively in tech-mediated classrooms (Mudra, 2020; Pehlevan & Ünal, 2024). In this regard, it is essential to understand how teachers themselves perceive the value, applicability, and limitations of digital literacy within their professional learning journey. These insights can inform the design of more responsive and contextually relevant teacher education programs that align with both global standards and local realities (Santos & Serpa, 2020; Wulantari et al., 2023).

The significance of this inquiry is further reinforced by emerging trends in blended learning, remote education, and gamified instruction, all of which require foundational digital competencies from educators (Abella & Rosa, 2023; Al-shaboul et al., 2023; Kumar et al., 2021). As educational technologies become more sophisticated, it is not enough for teachers to be consumers of digital tools; they must become critical evaluators, creative designers, and pedagogically informed users of technology (Stockwell, 2013; Wheeler, 2015). This shift calls for teacher education frameworks that emphasize experiential learning, collaborative inquiry, and reflective practices rooted in digital literacy (Mehran et al., 2017; Reinders & White, 2016).

Moreover, digital literacy cannot be taught in isolation from broader sociocultural and ethical considerations. The ability to engage in responsible digital citizenship, protect digital privacy, and understand the implications of algorithmic decision-making are all integral to a comprehensive digital literacy framework (Ary et al., 2010; Karale, 2021). In contexts such as Iran, where educational policies and infrastructural realities may impose constraints, these issues are even more pronounced and demand targeted interventions within teacher education programs (Dashtestani & Hojatpanah, 2020; Heidari & Tabatabaee-Yazdi, 2021).

Several recent studies have emphasized the importance of digital literacy in enhancing EFL teachers' professional

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identity, instructional effectiveness, and learner outcomes. For example, research by Abella and Rosa (Abella & Rosa, 2023) reveals that teachers who underwent structured digital literacy training exhibited higher confidence and creativity in classroom management. Similarly, Mokhtari (Mokhtari, 2023) argues that higher education institutions must recognize digital literacy not as a supplementary skill but as a fundamental component of academic and professional success. Within this discourse, the Iranian context has remained underexplored, particularly from the perspective of EFL teachers who are actively navigating the intersection of technology and language education.

Therefore, this study is situated at the confluence of educational theory, technological advancement, and localized pedagogical practice. It seeks to explore Iranian EFL teachers' perceptions of a digital literacy-based teacher education in order to uncover the complexities, aspirations, and perceived challenges embedded in this paradigm shift. Employing a grounded theory approach, the study engages with the lived experiences of 50 Iranian EFL teachers from diverse educational backgrounds. Through semi-structured interviews and audio-reflective journals, the study captures a nuanced understanding of how digital literacy is conceptualized, internalized, and operationalized within the scope of teacher education (Ary et al., 2010; Godwin-Jones, 2021).

To address this research gap, this study endeavored to focus on digital literacy in EFL teacher education within the Iranian context, with a focus on Iranian EFL teachers' perceptions of a digital literacy-based teacher education. In so doing, the following research question was addressed:

1-What are Iranian EFL teachers' perceptions of a digital literacy-based teacher education?

2. Methods and Materials

2.1. Study Design and Participants

In this study, the qualitative data in the form of semi-structured interview, and audio-reflective journal was collected and analyzed. In so doing, a grounded theory design was used. Grounded theory design is the best choice for this phase of the study since this approach is the best one for model development (Ary et al., 2010).

The participants taking part in this research included 50 males and females Iranian EFL teachers, holding B.A., M.A. and Ph.D. in TEFL, English Language and Literature, and English Translation fields, with varying years of teaching experience in schools and institutes of Iran. They were picked up through available sampling from virtual groups in social networks. Their mother language was Persian. It is worth mentioning that this sample size led to data saturation. To observe ethical issues, the consent of the participants was taken for participation in the study. Moreover, they were ensured about anonymity and confidentiality of their personal information.

2.2. Data Collection

2.2.1. Semi-Structured Interview

This study benefited from a semi-structured interview to elicit Iranian EFL teachers' perceptions of a digital literacy-based teacher education. The interview consisted of some open-ended questions. The language of the interview was English and there was no pre-determined time limit for each interview session. Moreover, each interview was taken in the one-on-one format through social networks including WhatsApp and Telegram applications for the convenience of the interviewees. All the interviews were taken by the researchers and transcribed to create verbatim written data for analysis. To establish the dependability and credibility of the interview data, low-inference descriptors and member checks were used.

2.2.2. Audio-Reflective Journal

As a part of the qualitative phase of the research, for the aim of triangulation of the data, one week after running the interview, those who took part in the interview were called for to orally record whatever they think about digital literacy-based teacher education. This is a research tool to uncover individuals' perceptions creatively (Ary et al., 2010). This is different from interview in the sense that that they can write whatever comes to their mind without being limited by a set of questions and without the natural boundaries felt by individuals in any interview or questionnaire. Then, they were told to submit the audio-recorded reflective journals via WhatsApp or Telegram. To check the dependability and credibility of the interview data, low-inference descriptors and member checks were used.

To collect the data, first, the semi-structured interview (described above) was taken to identify Iranian EFL teachers' perceptions of a digital literacy-based teacher education. All the interviews were taken in the one-on-one format by the researcher through social networks including WhatsApp and Telegram. Moreover, they were transcribed by the researchers to create verbatim written data for

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analysis. Then, the transcribed version was subjected to manual thematic analysis. Next, for the purpose of triangulation, the participants were called for to orally record their associations, views, mental visualizations, and such things on digital literacy-based teacher education and submit the files to the researchers via WhatsApp or Telegram. This is called audio-reflective journaling.

2.2.3. Data Analysis

Data analysis was conducted through the qualitative manual thematic analysis through open coding, axial coding and selective coding. Open coding entailed highlighting specific phrases and sentences and assigning corresponding codes to encapsulate the content of the emphasized portions. Axial coding included categorizing all similar codes under a main theme. Selective coding involved categorizing all the themes under a main category namely, Iranian EFL teachers' perceptions of a digital literacy-based teacher education.

3. Findings and Results

Via manual thematic analysis of the data, the following themes were identified with regard to Iranian EFL teachers' perceptions of a digital literacy-based teacher education:

Digital Information Searching

According to this theme, a digital literacy-based teacher education should instruct teachers on searching digital information. The following quotations are supportive this theme:

Teacher education systems should train teachers on digital information searching. Digital literacy is tied to information searching. If teachers do not know how to search digital information, they will not be digitally literate. (Participant 24)

When we are talking about digital literacy in teacher education, at first place, data searching shows itself prominently. Teachers should learn how to search information in the internet. (Participant 15)

Digital Interaction

This theme means that teachers should be taught to be engaged in interaction with others through digital tools. As witness to this theme, the following quotations are referred to:

A mission of digital literacy-based teacher education is making teachers competent in digital interaction. In digital era, teachers are required to interact with others through digital tools. (Participant 6)

Digital interaction should be a main concern of a system whose claim is emphasis on digital literacy of teachers. If teachers do not know how to take digital devices at the service of their interactions with peers, colleagues and students, they do not learn digital literacy. (Participant 19)

Digital Information Sharing

This theme represents the importance of teachers' mastery over sharing information via digital tools. The following quotations corroborate this:

We live in an age characterized with the need to share information. However, to be digitally literate, information sharing should be done in digital environment. This should be taught to teachers in teacher education courses. (Participant 30)

Digital information sharing is a main element of digital literacy. This is why teachers should be instructed by teacher education instructors on digital information sharing. (Participant 18)

Digital Collaboration

As approved by this theme, digital literacy-based teacher education should empower teachers in working with others through digital technologies. This is reflected by the following quotations:

Digital collaboration is what makes teachers digitally literate. This should be recognized and dealt with in teacher education programs so that teachers learn how to collaborate with others with the help of digitalization. (Participant 21)

Digital literacy involves, among other things, working with others in digital applications. Collaboration in digital channels should be defined in teacher preparation programs to enhance teachers' digital literacy. (Participant 10)

Digital Content Creation

Based on this theme, creating digital content is what teachers need to be trained on which by teacher educators. This is conveyed through the following quotations:

Creating digital content is a prerequisite for digital literacy. Accordingly, teacher education systems should invest on this matter. Digital content is any type of content that exists in the form of digital data. (Participant 29)

A main part of teacher education should be devoted to development of digital content that is stored on digital media in specific formats. Teachers must be trained on development of digital content. (Participant 1)

Familiarity with Soft wares and Hard Wares

As understood from this theme, teachers' training should target at making them familiar with different soft wares and hard wares. The following quotations signify this:

There exist different soft wares and hard wares with which teachers should be familiar to be considered literate digitally. Familiarity with these tools contribute to digital literacy. Teacher educators should pay much heed to this issue. (Participant 7)

Digital age has led to emergence of a huge number of soft wares and hard wares that should be used by teachers. Awareness of availability and mechanism of these soft wares and hard wares constitutes a significant part of teachers' digital literacy and should be incorporated in teacher education materials. (Participant 4)

Digital Problem-Solving

This theme shows the importance of addressing digital problem-solving or teachers' ability to solve technological and technical problems in teacher education. Evidence to this are the following quotations:

Digital literacy is not a unitary concept. Rather it is a complex concept that consists of different sub-concepts. For instance, it involves competence in solving digital problems. By digital problems, any kind of problem related to digital educational tools is meant. The bottom line is that teacher education programs should aim at improving teachers' ability in digital problem-solving. (Participant 13)

Working with digital technologies is not an easy task. Rather, it is a dynamic area in need of high expertise. I want to say that teachers should be trained to be competent at coping with digital problems. (Participant 22)

Using Word and PowerPoint Skills

This theme is associated with the paramountcy of teaching teachers the skills of using Word and PowerPoint. This is apprehended from the following quotations:

I think digital literacy-based teacher education cannot be imagined as separate from teaching basic skills such as using Word and PowerPoint. Without such skills, teachers cannot achieve digital literacy. (Participant 16)

By teaching teachers how to use Word and PowerPoint, teacher education programs move toward digital literacy because these are among the fundamental aspects of digital literacy. Consequently, these issues should be covered in teacher education curricula and syllabi. (Participant 3)

General Computer Skills

As uncovered by this theme, general computer skills should be incorporated in teacher education curricula. The following quotations approve this:

Since digital literacy calls for using computer, general computer skills are necessary for any teacher who seeks to improve his/her digital literacy. Therefore, this component should be observed by authorities of teacher education administrations. (Participant 28)

If teacher educators enhance computer skills of teachers, they are expected to have higher digital literacy. Computer has emerged as a fundamental element of digital education. Apparently, digital literacy should inevitably be approached by teaching computer skills. (Participant 40)

Using Technology for Educational Purposes

This theme implies that a presupposition of digital literacy is teachers' use of technology for educational purposes, that should be addressed in teacher education programs. The following quotations show this:

Teachers' digital literacy has many suppositions. A supposition of digital literacy is the ability to use technology for educational purposes. Teacher education programs should necessarily address this. (Participant 17)

Learning to use technology in education or what is called educational technology is very important for digital literacy. This denotes that teacher education systems have no way but to integrate education of educational technologies to teachers to teacher. (Participant 33)

Protecting Digital Devices

According to this theme, protection and maintenance of digital devices is also an important part of digital literacy which should be acquired by teachers. The following themes signify this:

Just using digital tools does not mean digital literacy. It goes beyond that. Digital tools need protection and maintenance. Teachers should be trained in this regard to be capable of protecting their digital devices. (Participant 49)

I believe that some technical abilities are to be taught to make teachers independent in those areas. One of these abilities is protecting digital tools. Sometimes it becomes too difficult to be handled. To avoid this, teachers should be trained in teacher education systems. (Participant 13)

Protecting Digital Content

This theme implies that digital literacy involves teachers' engagement in protecting digital content. The following quotations reveal this:

Teacher education based on digital literacy should sensitize teachers to protecting digital content. Digital content should be protected from removal through different procedures which should be trained by teacher educators. (Participant 19)

Obviously digital content is used in digital education. But digital content is always exposed to the risk of distortion.

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Teacher education administers should make teachers competent in protecting digital content. (Participant 35)

Identifying Digital Needs

According to this theme, as a component of digital literacy, teachers should be trained to identify digital needs of their students. The following quotations show this:

Digital literacy-based teacher education is an education which should train teachers how to identify digital needs of students. This seems that identification of digital needs contributes to digital literacy. (Participant 50)

Various programs of teacher training should aim at making the role of identifying digital needs of students bold to teachers and teaching them to deal with this. This adds to their digital literacy. (Participant 11)

Creative Use of Digital Technologies

The meaning behind this theme is that teacher education should train teachers on creative use of digital technologies because it is part of digital literacy. This is corroborated by the following quotations:

Creative use of digital technologies is a facet of digital literacy. If it is truly identified and promoted in teacher education courses, teachers' digital literacy is improved. Creative use of digital technologies should be taught to teachers in order to help them increase their digital literacy. (Participant 9)

Teachers' digital literacy requires them to be creative in the use of digital technologies. This is on the shoulders of teacher education systems to make teachers creative in using digital technologies through different strategies. (Participant 38)

4. Discussion and Conclusion

The present study aimed to explore Iranian EFL teachers' perceptions of a digital literacy-based teacher education through qualitative inquiry, employing semi-structured interviews and audio-reflective journals. The thematic analysis revealed a multidimensional conceptualization of digital literacy, highlighting a wide spectrum of competencies deemed essential for EFL teachers in Iran. These included digital information searching, digital interaction and collaboration, content creation, familiarity with digital tools, problem-solving, use of common software, and protecting digital content and devices. Moreover, unique themes such as identifying students' digital needs and creatively using digital technologies emerged as salient findings, contributing to the growing understanding of digital literacy in teacher education contexts.

The first theme, digital information searching, emphasizes the foundational role of information-seeking behaviors in teachers' digital literacy. This finding aligns with Martin and Madigan's notion that digital literacy entails the capacity to locate, evaluate, and use information effectively in digital environments (Martin & Madigan, 2006). Similarly, Nguyen and Habók found that digital information-seeking was positively associated with self-perceived digital competence among Vietnamese EFL learners, suggesting a similar perception among Iranian EFL teachers (Nguyen & Habók, 2021). In this study, participants unanimously viewed information searching not only as a gateway to digital literacy but as a prerequisite skill upon which other digital competencies build.

The theme of digital interaction and collaboration further underscores the social dimension of digital literacy. Teachers emphasized the need to engage meaningfully with colleagues, students, and broader communities through digital tools, confirming the argument of Chew and Ng that effective interpersonal interaction in computer-mediated communication enhances pedagogical effectiveness (Chew & Ng, 2021). Likewise, Herrera-Pavo has shown that collaborative digital learning contributes to both professional growth and community building in virtual education settings (Herrera-Pavo, 2021). Iranian teachers' reflections in this regard indicate that collaboration is not merely a technical skill but a relational competency that amplifies the pedagogical value of digital literacy.

Digital content creation, another core theme, was repeatedly mentioned by participants as central to modern teaching practice. Content creation entails the development of instructional materials, multimedia lessons, and digital assessment tools — all of which are essential for learner-centered instruction. As Gilakjani notes, integrating technology into English language teaching must include training in the creation of digital content to meet the pedagogical demands of diverse learning contexts (Gilakjani, 2017). The recognition of content creation as a priority resonates with findings from Mokhtari, who emphasized that higher education must empower teachers to become producers, not just consumers, of educational content (Mokhtari, 2023).

The emphasis on familiarity with digital tools, including hardware, software, and productivity programs such as Word and PowerPoint, illustrates the practical side of digital literacy. This perspective is reinforced by Abedi's findings,

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which showed a strong correlation between Iranian EFL learners' digital literacy and their success in cooperative learning in online classrooms (Abedi, 2023). Similarly, Reinders and White stressed the evolving role of digital tools in fostering teacher autonomy and self-regulated learning (Reinders & White, 2016). Teachers' perceptions in this study indicate that without a solid grounding in basic tools, higher-order digital competencies cannot be attained.

Moreover, the theme of digital problem-solving reflects a more dynamic understanding of digital literacy as a skill that extends beyond use to include troubleshooting, adaptation, and innovation. Teachers in the current study emphasized the importance of being able to resolve technical issues independently. This finding echoes the analysis by Kumar et al., who identified digital problem-solving as one of the key components of effective blended learning environments (Kumar et al., 2021). The implication here is clear: problem-solving competence supports not only functional use but also fosters confidence and resilience in digitally enriched classrooms.

Another important dimension highlighted by the participants was educational technology integration, which refers to using digital tools specifically for pedagogical aims. This component aligns with Fishman et al.'s claim that meaningful integration of technology into teaching practice requires teachers to be trained in both the mechanics of the tools and their instructional applications (Fishman et al., 2016). Godwin-Jones further asserts that the pedagogical appropriation of emerging technologies represents a critical stage in the evolution of language teacher education (Godwin-Jones, 2021). In this study, Iranian teachers clearly articulated that digital literacy cannot be decoupled from instructional intent, underscoring the need for practical training in educational technology.

The inclusion of protecting digital devices and content as themes reveals a growing awareness among teachers of digital ethics and cybersecurity — an area that has gained increasing prominence in recent literature. Karale notes that ethical use, privacy, and digital rights are indispensable elements of digital competence in the age of interconnected learning environments (Karale, 2021). Likewise, Santos and Serpa have emphasized that a digitally literate teacher must not only be proficient in usage but also cognizant of risks associated with digital interactions (Santos & Serpa, 2020). Teachers in this study called for explicit instruction in maintaining and securing digital tools, thus pointing to a more holistic conception of digital readiness.

Perhaps the most innovative themes that emerged in the current study were identifying students' digital needs and creative use of digital technologies. These themes represent a progressive shift in the digital literacy discourse toward personalization and innovation. In their literature review, Wulantari et al. emphasized that gamification and learner engagement strategies rely heavily on understanding learners' digital profiles (Wulantari et al., 2023). Similarly, Pehlevan and Ünal emphasized the importance of digital creativity and student-centeredness in pre-service English teacher training programs (Pehlevan & Ünal, 2024). The present study contributes to this dialogue by demonstrating that Iranian teachers recognize the need to tailor digital instruction to learner needs and to creatively leverage technology to enhance learning experiences.

These findings also echo the importance of teacher beliefs in determining the success of digital initiatives. As Bodaghi and Ghapanchi found, digital literacy significantly contributes to self-directed learning and professional autonomy among Iranian EFL learners (Bodaghi & Ghapanchi, 2023). Furthermore, Mudra's study of young EFL learners revealed that both teachers and students viewed digital literacy as empowering yet underdeveloped due to systemic limitations (Mudra, 2020). These structural and institutional challenges were also reflected in this study, where several participants pointed to gaps in infrastructure, curriculum design, and administrative support for digital literacy initiatives in Iran.

In light of the above, the present study confirms that digital literacy is not a monolithic construct but a multifaceted and context-sensitive competency. It is embedded in technical skills, cognitive strategies, pedagogical intent, ethical concerns, and adaptive behaviors. The emergent themes affirm the findings of earlier studies while introducing novel perspectives that extend the theoretical and practical understanding of digital literacy in EFL teacher education. Specifically, the focus on creativity and learner digital needs offers new directions for designing more inclusive and responsive teacher education programs.

Despite its contributions, this study is not without limitations. First, the sample was limited to 50 Iranian EFL teachers, selected through convenience sampling from online platforms. As such, the findings may not fully represent the broader population of Iranian EFL educators or those in different teaching contexts (e.g., rural areas or under-resourced institutions). Second, while grounded theory enabled a detailed exploration of perceptions, the qualitative nature of the study limits its generalizability.

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Additionally, participants' self-reported experiences and beliefs may have been influenced by social desirability bias, particularly in discussing competencies they may feel pressure to possess. Finally, the study did not include longitudinal data to explore how these perceptions evolve over time, especially as teachers gain more exposure to digital training.

Future research could benefit from adopting a mixed-methods approach, integrating qualitative findings with quantitative surveys or experimental interventions to validate the identified themes across larger and more diverse samples. Longitudinal designs could also be employed to track changes in teachers' digital literacy over the course of structured training programs. Furthermore, comparative studies between Iranian and non-Iranian EFL teachers could yield valuable cross-cultural insights into how different educational systems shape digital competencies. Another fruitful area of investigation would be exploring the impact of specific digital literacy components—such as content creation or cybersecurity awareness—on student outcomes and classroom dynamics. Lastly, research could focus on pre-service teacher training programs to assess how digital literacy is introduced and internalized during initial teacher education.

From a practical standpoint, teacher education programs in Iran and similar contexts should embed digital literacy training as a core component of their curriculum. This includes instruction not only in technical skills and tool usage but also in pedagogical strategies, ethical considerations, and creative design. Institutions should provide regular workshops and continuous professional development opportunities tailored to teachers' evolving digital needs. Additionally, digital literacy assessments could be implemented to identify specific areas of weakness and design personalized learning plans. Collaboration between policymakers, education administrators, and technology experts is crucial to ensuring the sustainability and scalability of such initiatives. Lastly, empowering teachers to identify and respond to students' digital needs can lead to more inclusive and effective educational practices that resonate with the demands of 21st-century learning.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

References

Abedi, Z. A. U. T.-Y. M. (2023). Does digital literacy provide evidence for Iranian EFL learners' cooperative learning in online classrooms? *Journal of Contemporary Language Research*, *2*(3), 158-166. https://doi.org/10.58803/jclr.v2i3.74

Abella, J. L., & Rosa, E. D. (2023). Digital literacy and digital competence of selected Filipino teachers: Basis for a post-pandemic pedagogy. *International Journal of Recent Educational Research*, *4*(5), 548-569. https://doi.org/10.46245/ijorer.v4i5.378

Al-shaboul, I. A., Kalsoom, T., Alshraah, S. M., & Khasawneh, M. A. S. (2023). Students' perceptions on the effects of blogging sites in enhancing their motivation for foreign languages writing and reading proficiency. *Migration Letters*, *20*(S12), 157-168. https://doi.org/10.59670/ml.v20is12.5869

Ary, D., Jacobs, L. C., & Sorensen, C. (2010). *Introduction to research in Education* (Vol. 8). Wadsworth Group. https://ebookppsunp.files.wordpress.com/2016/06/donald_ary_lucy_cheser_jacobs_asghar_razavieh_bookfi-org.pdf

Bodaghi, Z., & Ghapanchi, Z. (2023). On the relationship between Iranian intermediate EFL learners' digital literacy and their self-directed learning process. *Journal of Research in Techno-based Language Education*, *3*(3), 20-34. https://doi.org/10.22034/JRTLE.2023.403645.1046

Chew, S. Y., & Ng, L. L. (2021). *Interpersonal interactions and language learning: Face-to-face vs. computer-mediated communication*. Springer. https://doi.org/10.1007/978-3-030-67425-0

Dashtestani, R., & Hojatpanah, S. (2020). Digital literacy of EFL students in a junior high school in Iran: voices of teachers,

students and ministry directors. *Computer Assisted Language Learning*, *35*(4), 635-665. https://doi.org/10.1080/09588221.2020.1744664

Fishman, B., Dede, C., & Means, B. (2016). Teaching and technology: New tools for new times. In D. Gitomer & C. Bell (Eds.), (pp. 1269-1334). American Educational Research Association. https://doi.org/10.3102/978-0-935302-48-6_21

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), 95-106. https://doi.org/10.5539/ijel.v7n5p95

Godwin-Jones, R. (2021). Emerging technologies for language learning. In C. A. Chapelle (Ed.), (pp. 120-145). https://doi.org/10.1002/9781405198431.wbeal0365

Heidari, N., & Tabatabaee-Yazdi, M. (2021). Digital literacy skills among Iranian EFL teachers and students. *Journal of Research in Techno-based Language Education*, *1*(1), 22-34. https://doi.org/10.22034/JRTLE.2021.133013

Herrera-Pavo, M. Á. (2021). Collaborative learning for virtual higher education. *Learning, Culture and Social Interaction*, *28*, Article 100437. https://doi.org/10.1016/j.lcsi.2020.100437

Karale, A. (2021). The challenges of IoT addressing security, ethics, privacy, and laws. *Internet of Things*, *15*, Article 100420. https://doi.org/10.1016/j.iot.2021.100420

Kumar, A., Krishnamurthi, R., Bhatia, S., Kaushik, K., Ahuja, N. J., Nayyar, A., & Masud, M. (2021). Blended learning tools and practices: A comprehensive analysis. *IEEE Access*, *9*, 85151-85197. https://doi.org/10.1109/access.2021.3085844

Martin, A., & Madigan, D. (2006). *Digital literacies for learning*. Facet Publishing. https://www.facetpublishing.co.uk/page/detail/digital-literacies-for-learning/?k=9781856045636

Mehran, P., Alizadeh, M. A. U. K. I., & Takemura, H. (2017). Are Japanese digital natives ready for learning English online? A preliminary case study at Osaka University. *International Journal of Educational Technology in Higher Education*, *14*, Article 8. https://doi.org/10.1186/s41239-017-0047-0

Mokhtari, F. (2023). Fostering digital literacy in higher education: Benefits, challenges and implications. *International Journal of Linguistics, Literature and Translation*, *6*(10), 160-167. https://doi.org/10.32996/ijllt

Mudra, H. (2020). Digital literacy among young learners: How do EFL teachers and learners view its benefits and barriers? *Teaching English with Technology*, *20*(3), 3-24. https://eric.ed.gov/?id=EJ1264169

Namdari, E., & Sahragard, R. (2021). *Professional development needs of Iranian EFL teachers* ProQuest Dissertations and Theses Global]. Shiraz University. https://elmnet.ir/vslgg?id=11706712-12775

Nguyen, L. A. T., & Habók, A. (2021). Digital literacy of EFL students: An empirical study in Vietnamese universities. *Libri*, *72*(1), 53-66. https://doi.org/10.1515/libri-2020-0165

Nurhidayat, E., Mujiyanto, J., Yuliasri, I., & Hartono, R. (2023). Technology integration and teachers' competency in the development of 21st-century learning in EFL classroom. *Journal of Namibian Studies*, *18*(2), 342-349. https://doi.org/10.11591/edulearn.v18i2.21069

Panagiotidis, P. (2021). Virtual reality applications and language learning. *International Journal for Cross-Disciplinary Subjects in Education*, *12*(1), 4447-4454. https://doi.org/10.20533/ijcdse.2042.6364.2021.0543

Pehlevan, İ., & Ünal, B. (2024). Investigating the relationship between digital literacy and TPACK levels of pre-service English teachers. *Journal of Language Education and Research*, *10*(1), 87-111. https://doi.org/10.31464/jlere.1432879

Rahmah, A. L. D., Eryansyah, E., & Silvhiany, S. (2021). EFL students' digital literacy: Barriers to development and effective web application programs. *Edukasi: Jurnal Pendidikan dan Pengajaran*, *8*(2), 106-120. https://doi.org/10.19109/ejpp.v8i2.9733

Reinders, H., & White, C. (2016). 20 Years of autonomy and technology: How far have we come and where to next? *Language Learning & Technology*, *20*(2), 143-154. http://hdl.handle.net/10652/3552

Santos, A. I., & Serpa, S. (2020). Flipped classroom for an active learning. *Journal of Education and E-Learning Research*, *7*(2), 167-173. https://doi.org/10.20448/journal.509.2020.72.167.173

Selfa-Sastre, M., Pifarre, M., Cujba, A., Cutillas, L., & Falguera, E. (2022). The role of digital technologies to promote collaborative creativity in language education. *Frontiers in psychology*, *13*, Article 828981DO - 828910.823389/fpsyg.822022.828981. https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2022.828981/full

Stockwell, G. (2013). Technology and motivation in English-language teaching and learning. In E. Ushioda (Ed.). Springer. https://doi.org/10.1057/9781137000873_9

Tewathia, N., Kamath, A., & Ilavarasan, P. V. (2020). Social inequalities, fundamental inequities, and recurring of the digital divide: Insights from India. *Technology in Society*, *61*, Article 101251. https://doi.org/10.1016/j.techsoc.2020.101251

Wheeler, S. (2015). *Learning with e's: Educational theory and practice in the digital age*. Crown House Publishing. https://www.abebooks.co.uk/9781845909390/Learning-educational-theory-practice-digital-1845909399/plp

Wulantari, N. P., Rachman, A., Sari, M. N., Uktolseja, L. J., & Rofi'i, A. (2023). The role of gamification in English language teaching: A literature review. *Journal on Education*, *6*(1), 2847-2856. https://doi.org/10.31004/joe.v6i1.3328

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