The Readiness of EFL Pre-Service Teachers at Universitas Baturaja in Implementing IT-Based Language Teaching

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Abstract

This research aimed to explore the readiness of EFL pre-service teachers at Universitas Baturaja in implementing IT-based language teaching. A descriptive quantitative methodology, complemented by qualitative data, was utilized. The study involved 38 EFL pre-service teachers who had successfully completed the Microteaching course. Data collection was conducted using a Guttman-scale questionnaire (Yes = 1, No = 0) adapted from Siregar (2024) and semi-structured interviews. The quantitative data were analyzed through descriptive statistics, while the qualitative data underwent thematic analysis. The results indicated that 37 participants (97.37%) exhibited a Very High level of readiness, whereas one participant (2.63%) demonstrated a Medium level. The overall percentage score achieved was 95.35%. Among the four TRI dimensions, Optimism yielded the highest score, followed by Innovativeness, Insecurity, and Discomfort. The insights gained from the interviews corroborated the findings from the questionnaire. In summary, EFL pre-service teachers displayed a very high level of readiness to engage in IT-based language teaching.

Keywords: EFL pre-service teachers; readiness; IT-based language teaching; Technology Readiness Index; digital competence.

INTRODUCTION

The swift advancement of information technology has changed educational methods, especially in English as a Foreign Language (EFL) teaching. Technology is now seen not just as an extra tool but as a crucial way to create interactive, adaptable, and student-focused learning environments. Digital platforms, multimedia tools, learning management systems, and online applications can offer real learning resources, enhance communication, and aid in developing listening, speaking, reading, and writing skills. As a result, teachers are expected to effectively incorporate digital tools into their teaching methods.

Teacher readiness plays a vital role in the successful integration of technology. Readiness means teachers' preparedness in terms of knowledge, skills, attitudes, confidence, and willingness to use technology in their teaching. Research has indicated that technology integration is affected not only by technical skills but also by teachers' beliefs, attitudes, and chances to practice with technology (Tondeur et al., 2020; Scherer et al., 2021). Therefore, pre-service teachers need chances to build both their technological and pedagogical skills before they start their teaching careers.

At Universitas Baturaja, the English Education Study Program offers students learning experiences related to technology integration. The curriculum features courses like English Language Teaching Media, ICT in English Language Teaching, Interactive Teaching Media Development, Instructional Design, and Microteaching. These courses aim to enhance students' technological and pedagogical skills for technology-enhanced language teaching.

However, just having these courses available does not guarantee that pre-service teachers are prepared to apply IT-based language teaching in real classroom situations.

To assess this readiness, the study utilized the Technology Readiness Index (TRI) created by Parasuraman (2000) and modified by Siregar (2024). The TRI includes four dimensions: Optimism, Innovativeness, Discomfort, and Insecurity. Optimism and Innovativeness act as positive influences on technology adoption, while Discomfort and Insecurity serve as barriers. This framework allows for an exploration of both the positive and negative psychological factors related to technology readiness.

The current study was carried out to fill the gap in evidence regarding the readiness of EFL pre-service teachers at Universitas Baturaja to use IT in language teaching. It sought to answer two research questions: (1) What is the level of readiness of EFL pre-service teachers at Universitas Baturaja in implementing IT-based language teaching? and (2) Which dimension of the Technology Readiness Index is the most dominant among the respondents? The results are anticipated to offer valuable insights for pre-service teachers, educators, and the institution to enhance technology-related preparation for future English teachers.

In teacher education, the idea of readiness is very important because pre-service teachers are expected to develop digital skills before starting their teaching careers. Besides gaining knowledge in teaching methods and content, they must also learn to effectively use technology in their teaching practices. Previous studies have shown that while pre-service teachers usually have positive views about technology, many still face challenges in applying digital tools effectively in their teaching methods (Farjon et al., 2019; Guillén-Gámez et al., 2023). Moreover, most existing research has focused mainly on attitudes or perceptions towards technology, rather than measuring technology readiness in a quantitative way. This indicates a need for more research to better define pre-service teachers' readiness in a systematic and measurable way.

In Indonesia, integrating technology into education has become a major focus for improving teaching quality. Higher education institutions are responsible for preparing future teachers with the skills needed for technology-enhanced learning. Universitas Baturaja has

included various ICT-related courses in the English Education Study Program curriculum, such as English Language Teaching Media, ICT in English Language Teaching, Interactive Teaching Media Development, and Microteaching. These courses are designed to enhance students' technological and teaching skills necessary for implementing IT-based language instruction. However, despite these educational opportunities, there is a lack of evidence about how well pre-service teachers are prepared to use technology in real classroom settings.In order to investigate this matter, the current research utilized the Technology Readiness Index (TRI) established by Parasuraman (2000) and modified by Siregar (2024). The TRI framework assesses technology readiness across four dimensions: optimism, innovativeness, discomfort, and insecurity. The dimensions of optimism and innovativeness serve as positive motivators that facilitate technology adoption, while discomfort and insecurity act as deterrents. This framework offers a thorough understanding of pre-service teachers' preparedness to engage in IT-based language instruction.

Given the identified research gap and the need to prepare future educators with digital skills, this study focused on assessing the readiness of EFL pre-service teachers at Universitas Baturaja for implementing IT-based language teaching. Specifically, the research aimed to outline their readiness levels based on the four dimensions of the Technology Readiness Index (TRI) and to identify the main factors influencing their readiness. The expected results are intended to improve teacher education programs and offer empirical evidence for advancing technology integration in English language teaching.

METHOD

1. Research Design

   This research utilized a descriptive quantitative approach, complemented by qualitative data. This design was chosen because the goal was to describe how ready EFL pre-service teachers are, without altering any variables. Quantitative data were collected through a questionnaire, while semi-structured interviews provided additional data to enhance and clarify the interpretation of the questionnaire results. The study applied the Technology Readiness Index (TRI) developed by Parasuraman (2000) and modified by Siregar (2024), which includes the dimensions of Optimism, Innovativeness, Discomfort, and Insecurity.

   The questionnaire featured 30 dichotomous items based on a Guttman scale, where a response of Yes was assigned a score of 1 and No a score of 0. The readiness scores were categorized into five levels: Very High (81–100%), High (61–80%), Medium (41–60%), Low (21–40%), and Very Low (0–20%). The overall percentage score was determined by comparing the total score achieved with the maximum possible score. The interview data were analyzed using thematic analysis as outlined by Braun and Clarke (2021), with the interview findings serving solely as supplementary evidence for the quantitative results.

2. Population and Sample

   The population consisted of 55 EFL pre-service teachers in the English Education Study Program, Faculty of Teacher Training and Education, Universitas Baturaja, who had completed courses related to information technology. The sample consisted of 38 EFL pre-service teachers who had successfully completed the Microteaching course. Purposive sampling was used because the participants had received relevant pedagogical and technological preparation and were considered appropriate for evaluating readiness to implement IT-based language teaching.

3. Technique For Collecting Data

Two methods were employed to gather the data: a questionnaire and semi-structured interviews. The questionnaire, which was modified from Siregar (2024), included 30 items that corresponded to the four dimensions of the Technology Readiness Index (TRI). It assessed the participants' preparedness to integrate technology into English language instruction, focusing on their favorable attitudes, eagerness to engage with technology, capacity to handle technological obstacles, and responsible engagement with digital tools.

Semi-structured interviews were carried out with five chosen participants to complement the findings from the questionnaire. These interviews delved into their perspectives on the role of technology in English language teaching, their experiences with digital resources, their confidence in utilizing technology, and the difficulties faced when navigating unfamiliar applications. The data obtained from the interviews were analyzed thematically and juxtaposed with the quantitative findings.

FINDINGS AND DISCUSSION

The research examined the preparedness of 38 pre-service teachers of English as a Foreign Language (EFL) at Universitas Baturaja in the application of IT-based language instruction. The survey comprised 30 items, and the cumulative score achieved was 1,087 out of a potential maximum of 1,140. Consequently, this yielded an overall percentage score of 95.35%, reflecting an exceptionally high degree of readiness.

1. Readiness Level of EFL Pre-Service Teachers

The overall readiness level of the respondents is presented in Table 1.

Table 1
Percentage Readiness Level of EFL Pre-Service Teachers

No.	Criteria	Frequency	Percentage
1	Very High	37	97.37%
2	High	0	0%
3	Medium	1	2.63%
4	Low	0	0%
5	Very Low	0	0%
Total		38	100%

Table 1 illustrates that 37 participants (97.37%) were categorized as exhibiting a Very High level of readiness, whereas one participant (2.63%) fell into the Medium category. There were no participants classified as High, Low, or Very Low. The overall percentage score of 95.35% additionally suggests that the respondents were predominantly well-equipped to execute IT-based language instruction.

2. Students' Readiness Based on Each Indicator

Table 2

The Recapitulation of Students' Readiness Based on Each Indicator

No.	Indicator	Criteria	Percentage
1	Optimism	Very High	96.49%
2	Innovativeness	Very High	95.96%
3	Discomfort	Very High	90.78%
4	Insecurity	Very High	95.78%

Table 2 illustrates that all four dimensions of the Technology Readiness Index (TRI) were categorized as Very High. Among these, Optimism achieved the highest percentage at 96.49%, followed closely by Innovativeness at 95.96%, Insecurity at 95.78%, and Discomfort at 90.78%. These findings suggest that the respondents generally held positive views regarding technology, demonstrated a willingness to engage with digital tools, exhibited confidence in the responsible use of technology, and possessed a relatively robust capacity to manage technological challenges.

Optimism emerged as the predominant dimension. The respondents predominantly expressed the belief that technology could enhance the effectiveness of English language instruction, facilitate access to educational resources, boost student engagement, and aid in communication. This outcome aligns with Parasuraman's (2000) assertion that optimism embodies a positive conviction that technology can enhance efficiency, flexibility, and effectiveness. Furthermore, it reinforces the notion that favorable attitudes toward technology can play a significant role in the successful integration of technology within teacher education.

Innovativeness also registered a very high score, signifying that the respondents were eager to explore and adopt digital technologies for instructional purposes. Their readiness encompassed the creation of digital materials, the use of educational applications, the integration of multimedia, and the utilization of online platforms. This finding is particularly

significant as it underscores the necessity for future English educators to continually enhance their digital competencies in response to the evolving landscape of technologies and instructional tools.

Discomfort was noted to have the lowest percentage among the four dimensions, yet it still fell within the Very High category. The questionnaire pinpointed Question 22, which stated, "I can operate educational technologies without assistance," as the item with the lowest score. This indicates that certain respondents may not have felt entirely confident in their ability to utilize unfamiliar educational technologies independently. This observation aligns with the concept of discomfort in the Technology Readiness Index (TRI), which pertains to feelings of a lack of control or being overwhelmed when engaging with technology (Parasuraman, 2000). Therefore, ongoing practice, guided learning, and exposure to new applications could enhance this aspect of technological readiness.

Insecurity achieved a score of 95.78% and was categorized as Very High. The respondents generally demonstrated an understanding of the importance of assessing reliable online resources, safeguarding personal information, and utilizing technology in a responsible manner. This suggests that their readiness encompassed not only the capability to operate digital tools but also an awareness of safe and responsible technology use within educational contexts.

The findings from the interviews corroborated the results of the questionnaire. The five participants interviewed typically expressed a positive attitude towards technology, articulating that digital tools such as PowerPoint, Canva, Google Classroom, educational applications, and platforms enhanced by artificial intelligence could assist them in preparing materials, delivering lessons, accessing resources, and creating more engaging learning experiences. Additionally, participants characterized technology as beneficial for communication and fostering student-centered learning.

The interviews revealed that factors such as familiarity with technology, prior

experience, regular academic engagement, self-assurance, and a desire to learn played significant roles in determining readiness. Nonetheless, several participants pointed out that unstable internet connections and unfamiliar applications posed challenges. They noted that these obstacles could typically be overcome through consistent practice, self-directed learning, tutorials, and support from peers. Consequently, the qualitative findings corroborated the quantitative data, indicating that respondents were well-prepared while still having opportunities to enhance their independent use of unfamiliar technologies.

In summary, the findings suggest that EFL pre-service teachers at Universitas Baturaja exhibited an exceptionally high level of readiness to adopt IT-based language instruction. These results align with the importance of teacher education in fostering technological competence and confidence through organized coursework and hands-on experiences (Tondeur et al., 2020; Falloon, 2020). The synergy of positive attitudes, creativity, responsible technology usage, and the capability to navigate technological challenges establishes a robust foundation for future technology-enhanced English language teaching.

CONCLUSION

This research determined that EFL pre-service teachers at Universitas Baturaja exhibited an exceptionally high level of preparedness for implementing IT-based language instruction. Out of 38 participants, 37 (97.37%) were categorized as Very High, while one participant (2.63%) fell into the Medium category. The overall readiness percentage was calculated at 95.35%. Among the four dimensions of the TRI framework, Optimism emerged as the most prominent dimension, scoring 96.49%, followed closely by Innovativeness at 95.96%, Insecurity at 95.78%, and Discomfort at 90.78%. Despite being the lowest dimension, Discomfort still fell within the Very High category.

Question 22, which addressed the capability to utilize educational technologies independently, highlighted the primary area that necessitates further enhancement. The findings from the interviews supported the results of the questionnaire, revealing positive attitudes, self-assurance, prior experience, and a desire for ongoing learning. Consequently, the respondents appeared to be generally well-equipped to incorporate technology into their future English language instruction, although it is advisable to engage in continued practice and exposure to new technologies to bolster their independent digital skills.

REFERENCE

Aisyiyah. (2022). *Pre-service English teachers' perceived readiness for technology-enhanced language learning*. Universitas Islam Negeri.

Alaka, A., et al. (2025). Investigating the readiness of EFL pre-service teachers in implementing technology-based teaching: A phenomenological study.

Al-Emran, M., Mezhuyev, V., & Kamaludin, A. (2018). Technology acceptance model in m-learning context: A systematic review. *Computers & Education, 125*, 389–412. https://doi.org/10.1016/j.compedu.2018.06.008

Babbie, E. (2020). *The practice of social research* (15th ed.). Cengage Learning.

Bond, M., Marín, V. I., Dolch, C., Bedenlier, S., & Zawacki-Richter, O. (2018). Digital transformation in German higher education: Student and teacher perceptions and usage

of digital media. *International Journal of Educational Technology in Higher Education, 15*(48). https://doi.org/10.1186/s41239-018-0130-1

Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.

Chai, C. S., Jong, M. S. Y., Yin, H., & Chen, M. (2020). Teacher professional development for integrating technology into teaching. *Educational Technology & Society, 23*(2), 1–12.

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

European Commission. (2018). *European framework for the digital competence of educators: DigCompEdu*. Publications Office of the European Union.

Falloon, G. (2020). From digital literacy to digital competence: The teacher digital competency (TDC) framework. *Educational Technology Research and Development, 68*(5), 2449–2472. https://doi.org/10.1007/s11423-020-09767-4

Farjon, D., Smits, A., & Voogt, J. (2019). Technology integration of pre-service teachers explained by attitudes and beliefs. *Computers & Education, 130*, 81–93.

Guillén-Gámez, F. D., Cabero-Almenara, J., & Llorente-Cejudo, C. (2023). Digital competence in teacher education: A systematic review. *Education and Information Technologies, 28*,

12345–12370.

Hidayat, J., et al. (2022). Teachers' readiness toward technology-based learning implementation in Indonesian classrooms.

Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). Technology-enhanced language teaching in the post-pandemic era. *RELC Journal*.

Kuzmina, E., et al. (2022). Digital competence and technology integration among language teachers.

Lin, C. H., Shih, H. Y., & Sher, P. J. (2020). Integrating technology readiness into technology acceptance: A study of technology adoption. *Educational Technology Research and Development*.

Parasuraman, A. (2000). Technology readiness index (TRI): A multiple-item scale to measure readiness to embrace new technologies. *Journal of Service Research, 2*(4), 307–320. https://doi.org/10.1177/109467050024001

Rachmawati, E., et al. (2021). Pre-service teachers' readiness on the use of mobile-assisted language learning during online classes.

Richards, J. C., & Burns, A. (2019). *The Cambridge guide to learning English as a second language*. Cambridge University Press.

Ridha, M., & Fithriani, R. (2022). EFL pre-service teachers' perception of technology integration in English language instruction.

Scherer, R., Siddiq, F., & Tondeur, J. (2021). The technology acceptance and readiness of pre-service teachers: A systematic review. *Computers & Education, 168*, Article 104223. https://doi.org/10.1016/j.compedu.2021.104223

Sekaran, U., & Bougie, R. (2020). *Research methods for business: A skill-building approach* (8th ed.). Wiley.

Siregar, R. (2024). Technology readiness of EFL pre-service teachers in implementing IT-based language teaching.

Tondeur, J., Howard, S. K., & Yang, J. (2020). One-size does not fit all: Towards an adaptive model to develop pre-service teachers' digital competencies. *Computers in Human Behavior, 116*, Article 106659. https://doi.org/10.1016/j.chb.2020.106659

Zou, D., Xie, H., & Wang, F. L. (2022). Artificial intelligence and technology-enhanced language learning: A systematic review. *Computer Assisted Language Learning, 35*(9), 1878–1912.