TEFL Overseas Journal

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

TECHNOLOGY-ENHANCED LANGUAGE LEARNING IN EFL CLASSROOMS: A STUDY ON DIGITAL PEDAGOGY AND STUDENT ENGAGEMENT

Siti Nur Asia[1], Ervianti[2], Sultan[3]
nurasia93@gmail.com, ervianti@ukitoraja.ac.id, sultanedutra@gmail.com
[1] Universitas Pejuang Republik Indonesia, [2]Universitas Kristen Indonesia Toraja,
[3]Universitas Negeri Makassar

ABSTRACT

This study investigated the implementation of technology-enhanced language learning in EFL classrooms with a focus on digital pedagogy and student engagement. The study was motivated by the increasing need to design English instruction that is interactive, flexible, and pedagogically meaningful in secondary school settings. A mixed-methods quasi-experimental design was employed at SMA 13 Makassar involving 72 eleventh-grade students divided into an experimental group and a control group. The experimental group received technology-enhanced English instruction through digital presentations, interactive quizzes, short instructional videos, guided online discussion, and follow-up tasks delivered through Google Classroom and WhatsApp, while the control group received conventional instruction. Data were collected through a language achievement test, a student engagement questionnaire, classroom observation sheets, and semi-structured interviews. Quantitative data were analyzed using descriptive statistics and t-tests, while qualitative data were analyzed thematically. The findings showed that students in the technology-enhanced class achieved higher post-test scores, demonstrated stronger behavioral, emotional, and cognitive engagement, and responded more positively to English learning than those in the conventional class. Students also reported that digital pedagogy made learning more accessible, motivating, and easier to review outside class. The study suggests that technology-enhanced language learning can improve both learning outcomes and student engagement when digital tools are integrated through clear pedagogical design.

Keywords : technology-enhanced language learning, digital pedagogy, EFL, student engagement, learning outcomes

INTRODUCTION

Technology-enhanced language learning has become a major area of interest in contemporary English language education because it offers new ways to organize learning, provide multimodal input, and expand student participation beyond traditional classroom routines. In EFL contexts, where learners often rely heavily on school-based exposure to English, digital tools can increase access to practice, feedback, and interaction. At the same time, research has emphasized that technology use in language education is most effective when it is pedagogically integrated rather than treated as a simple add-on. Recent scholarship shows that technology-enhanced language learning now centers on learner-centered design, digital interaction, and meaningful pedagogical use, while also drawing attention to the challenges teachers face in implementing technology in coherent ways (Hasumi & Chiu, 2024; Shadiev & Yang, 2020; Akram et al., 2022).

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

In EFL classrooms, digital pedagogy is especially relevant because it allows teachers to extend learning beyond classroom time and to present language through text, audio, image, video, quizzes, and collaborative tasks. This is important because many students need repeated exposure to vocabulary, sentence patterns, and communicative practice before they can use English confidently. Research in blended and digitally supported EFL learning has shown that students often benefit from technology-enhanced environments that provide structured access to materials, flexible review opportunities, and stronger teacher guidance across learning spaces. Studies also indicate that students' engagement in such environments is shaped by the nature of activities and the support they receive from teachers (Wang et al., 2021; Li, 2022; Huang et al., 2022; Gao et al., 2024).

Despite these promising developments, technology integration in language teaching still requires stronger pedagogical grounding. Digital pedagogy involves more than using devices or applications; it concerns how learning is designed, sequenced, and evaluated. Recent reviews in technology-enhanced language education stress that teachers' pedagogical choices, design logic, and planning strategies are central to the success of digital learning. At the same time, systematic evidence also warns that technology-enhanced language learning can produce null or even negative outcomes when tools are poorly aligned with learning objectives or when instructional design is weak. This makes digital pedagogy an issue of planning and evaluation as much as one of technological access (Liu et al., 2023; Zhang et al., 2024; Luo et al., 2024).

A growing body of empirical research further shows that different forms of technology-supported language learning can improve students' performance and engagement when used purposefully. Digital game-based learning, interactive storytelling, presentation platforms, and clustered digital materials have each shown potential to make language learning more dynamic and participatory. These approaches often work by reducing monotony, encouraging repeated practice, and creating opportunities for immediate feedback and multimodal interaction. In EFL settings, such digital practices can be especially useful for helping students move from passive reception to more active participation in English tasks (Xu et al., 2020; Liang & Hwang, 2023; Tarazi & Ortega-Martín, 2023; Salih & Omar, 2024).

Student engagement is one of the most important constructs for understanding why digital pedagogy may improve learning. In language education, engagement includes behavioral participation, emotional involvement, and cognitive investment in classroom activities. When digital tools are used effectively, they can help learners focus attention, persist in tasks, and develop more positive attitudes toward English learning. Recent studies have shown that factors such as online learning self-efficacy, informal digital learning experiences, student preferences for digital tools, and classroom environment all play important roles in shaping engagement in technology-mediated EFL learning (Wu, 2023; Pikhart et al., 2024; Ye, 2024; De Bruijn-Smolders & Prinsen, 2024).

Teacher readiness also remains central to digital pedagogy. Successful technology-enhanced instruction depends not only on students' access to devices but also on teachers' ability to choose suitable tools, connect them to curriculum goals, and orchestrate meaningful learning processes. Recent research shows that blended learning

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

adoption, teacher digital literacy, TPACK-related competence, and technology integration planning all influence whether digital pedagogy becomes effective classroom practice. These studies suggest that teachers need both technological familiarity and pedagogical clarity to transform digital tools into learning opportunities that genuinely support language development (Anthony et al., 2022; Feng & Sumettikoon, 2024; Wang, 2022; Yilmaz Ozden et al., 2024).

In addition, digital pedagogy in language education is increasingly linked to teacher learning, CALL-oriented preparation, intelligent learning environments, and feedback systems. Research on technology-enhanced lesson planning, CALL course development, intelligent computer-assisted language learning, and learning analytics shows that digital language learning becomes more effective when it is supported by systematic design, opportunities for application, and responsive feedback. These findings reinforce the view that technology should be embedded in pedagogical systems rather than isolated classroom moments. In EFL settings, such an approach may help teachers create more consistent learning experiences across class meetings and outside-class tasks (Crosthwaite et al., 2023; Ekmekçi, 2023; Weng & Chiu, 2023; Chen, 2024).

Although the literature on technology-enhanced language learning is expanding rapidly, more context-specific evidence is still needed from Indonesian secondary school classrooms. Many existing studies focus on universities, online courses, or large-scale reviews, whereas public senior high schools often operate under different constraints, including limited time, mixed student proficiency, and uneven digital learning habits. School-based studies have suggested that technology-supported instruction can improve both achievement and motivation when implemented appropriately, but more research is needed on how digital pedagogy works in routine classroom contexts such as Makassar. Based on this background, the present study investigated technology-enhanced language learning in EFL classrooms at SMA 13 Makassar, with a focus on digital pedagogy and student engagement (Oweis, 2018).

METHOD

This study employed a mixed-methods quasi-experimental design to examine the impact of technology-enhanced language learning on student engagement and English learning outcomes. The quantitative component was used to compare learning achievement and engagement scores between students who experienced digital pedagogy and those who learned through conventional instruction. The qualitative component was used to explore how students responded to the technology-enhanced classroom environment and which aspects of the instructional design supported engagement most strongly.

The study was conducted at **SMA 13 Makassar**, South Sulawesi, Indonesia. The participants were 72 eleventh-grade students from two intact classes. One class consisting of 36 students was assigned as the experimental group, while another class consisting of 36 students served as the control group. The students were between 16 and 17 years old. Both classes were considered comparable in terms of prior English proficiency based on school records, previous semester scores, and teacher recommendation. The experimental group received technology-enhanced English instruction for eight weeks. The instructional design integrated face-to-face classroom teaching with digital pedagogy through

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

presentation slides, short teacher-made videos, vocabulary and grammar quizzes, online discussion prompts, collaborative writing tasks, and follow-up activities delivered through Google Classroom and WhatsApp. Each weekly lesson followed a consistent sequence. First, the teacher introduced the topic in class using visuals and guided explanation. Second, students completed interactive digital activities such as quizzes, short listening or video tasks, or pair-based discussion prompts. Third, students accessed follow-up reinforcement tasks outside class and received brief teacher feedback through digital platforms. The control group learned the same content through textbook explanation, board work, oral questioning, and paper-based exercises without structured digital reinforcement.

The learning materials focused on vocabulary development, reading comprehension, functional expressions, and short written responses aligned with the Grade 11 English curriculum. The digital pedagogy model was designed to support repetition, accessibility, and participation rather than technological complexity. The teacher used familiar tools so that students could concentrate on learning tasks rather than on technical difficulties. Four instruments were used to collect data. First, an English learning achievement test containing 40 items was administered as a pre-test and post-test. The test covered vocabulary, reading comprehension, and short written responses. Second, a student engagement questionnaire was developed to assess behavioral, emotional, and cognitive engagement using a five-point Likert scale. Third, classroom observation sheets were used to record participation, attention, task completion, peer interaction, and willingness to answer questions during lessons. Fourth, semi-structured interviews were conducted with 10 students from the experimental group after the intervention.

The research procedure lasted eight weeks. In the first week, both groups completed the pre-test and the initial engagement questionnaire. From week two to week seven, the experimental group participated in technology-enhanced lessons, while the control group received conventional instruction. Classroom observations were conducted throughout the intervention. In the final week, both groups completed the post-test and the engagement questionnaire, and selected students from the experimental group participated in interviews. Quantitative data were analyzed using descriptive statistics, paired-sample t-tests, and independent-sample t-tests. Gain scores were also calculated to show patterns of improvement. Qualitative data from observations and interviews were analyzed through thematic analysis. The researcher coded recurring responses, grouped them into themes, and compared them with the quantitative results to strengthen interpretation through triangulation.

FINDINGS AND RESULTS

Finding

The findings are presented according to the three research questions: the effect of technology-enhanced language learning on English achievement, its effect on student engagement, and students' perceptions of digital pedagogy in the EFL classroom.

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

1. English Learning Outcomes

The first research question examined whether technology-enhanced language learning significantly improved students' English achievement. Table 1 presents the pre-test and post-test results of the experimental and control groups.

Table 1. Pre-test and Post-test Scores

Group	N	Pre-test Mean	Post-test Mean	Gain Score
Experimental Group	36	57.94	82.17	24.23
Control Group	36	58.11	69.42	11.31

The results show that both groups improved after instruction, but the experimental group achieved a substantially higher gain score. The pre-test means were almost identical, indicating that both groups began from a similar level of English ability. After the eight-week intervention, however, the post-test mean of the experimental group exceeded that of the control group by more than twelve points.

The statistical analysis showed that the gain in the experimental group was significant and that the post-test difference between the two groups was also significant. This suggests that the technology-enhanced pedagogy contributed positively to students' learning outcomes. Students who experienced digital reinforcement, multimodal input, and online follow-up tasks performed better than those who relied on conventional classroom explanation alone.

2. Achievement by Language Component

To examine which language areas improved the most, the post-test was broken down into three components: vocabulary, reading comprehension, and short written response.

Table 2. Gain Scores by Language Component

Skill Area	Experimental Group	Control Group
Vocabulary	8.71	4.03
Reading Comprehension	7.84	3.92
Short Written Response	7.68	3.36

The table indicates that the experimental group outperformed the control group in all three areas. Vocabulary showed the largest gain, followed closely by reading comprehension and short written response. This pattern suggests that technology-enhanced language learning was especially useful in strengthening repeated encounters with lexical items and contextual reading tasks. The short written response component also improved considerably, likely because students had more opportunities to revisit models, prompts, and feedback through digital materials.

Observation notes supported this pattern. Students in the experimental class often revisited digital vocabulary tasks before the next lesson and used key expressions more accurately in follow-up writing tasks. They also appeared more prepared during reading activities because they had previously engaged with topic-related visuals or short videos.

3. Student Engagement Questionnaire

The second research question focused on whether digital pedagogy enhanced students' engagement. Table 3 presents the overall engagement scores of the two groups.

Table 3. Overall Engagement Scores

Group	Pre-questionnaire Mean	Post-questionnaire Mean
Experimental Group	3.18	4.24

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

Control Group	3.16	3.47

The questionnaire results show a stronger increase in engagement for the experimental group. Students who experienced technology-enhanced learning reported higher interest, more active participation, and greater willingness to complete English tasks. The control group also showed slight improvement, but the increase was smaller.

To understand this more clearly, engagement was analyzed by dimension.

Table 4. Engagement by Dimension

Engagement Dimension	Experimental Group Mean	Control Group Mean
Behavioral Engagement	4.20	3.46
Emotional Engagement	4.31	3.49
Cognitive Engagement	4.22	3.45

The highest score in the experimental group was emotional engagement, suggesting that students found the lessons more enjoyable and less monotonous. Behavioral and cognitive engagement were also high, indicating that digital pedagogy supported both visible participation and mental investment in learning tasks.

4. Observation Results

Classroom observation findings further explained the questionnaire data. In the experimental group, students were more attentive during teacher explanation when visuals, short videos, and interactive questions were used. They responded more quickly to instructions and were more willing to take part in pair-work and group discussion. When digital quizzes were used, even students who were usually quiet became more active.

The observation sheets showed that on-task behavior was stronger in the experimental class. Students were more likely to finish activities on time, check answers carefully, and revisit errors after receiving feedback. In contrast, the control class relied more heavily on teacher-led explanation, and participation was dominated by a smaller number of confident students. Less active students in the control group often waited for direct answers rather than attempting responses independently.

Another visible difference concerned continuity between lessons. In the experimental class, students often came prepared because they had already reviewed follow-up tasks online. This made classroom review more efficient and allowed more time for discussion and practice. The digital pedagogy therefore appeared to distribute learning more evenly across class and out-of-class moments.

5. Student Perceptions of Digital Pedagogy

After the intervention, the experimental group completed a student response questionnaire on the digital pedagogy model.

Table 5. Student Response Questionnaire

Aspect	Mean Score
Clarity of instruction	4.28
Attractiveness of activities	4.35
Ease of access to materials	4.18
Helpfulness for understanding English	4.33
Motivation to learn English	4.27

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

The results indicate that students responded positively to the technology-enhanced learning design. The highest score was recorded for attractiveness of activities, suggesting that students found the lessons more interesting than regular instruction. Helpfulness for understanding English also received a high score, meaning that students felt the digital materials supported comprehension rather than simply adding extra tasks.

Ease of access received the lowest score among the five aspects, although it remained in the positive range. A few students still needed brief support when opening files or uploading answers during the early weeks. However, this difficulty lessened over time as students became more familiar with the routine.

6. Interview Findings

Interview analysis generated four main themes: repeated access to content, stronger confidence, increased classroom readiness, and higher learning enjoyment.

First, students appreciated being able to access the same content more than once. They said that videos, slides, and digital tasks helped them review difficult material at home. This was especially useful for vocabulary and reading passages that were hard to understand in one classroom meeting.

Second, students reported stronger confidence. Several said that they were more willing to answer questions in class because they had already encountered the material through a digital activity or follow-up task. The prior exposure reduced fear of making mistakes.

Third, students described better classroom readiness. They felt that digital reinforcement made them more prepared for the next lesson. Instead of encountering everything for the first time in class, they came with some familiarity, which made the lessons feel easier and more manageable.

Fourth, students said that English learning became more enjoyable. They liked the combination of videos, interactive tasks, and teacher feedback. In their view, digital pedagogy made English feel less monotonous and more connected to how they normally use technology in daily life.

7. Summary of Findings

Overall, the findings show that technology-enhanced language learning had a positive effect on both achievement and engagement. The experimental group achieved higher post-test scores, demonstrated stronger behavioral, emotional, and cognitive engagement, and expressed more positive perceptions of English learning than the control group. The results suggest that digital pedagogy supported students not only by improving access to materials but also by making classroom participation more manageable, motivating, and continuous.

Discussion

The findings indicate that technology-enhanced language learning can significantly improve English learning outcomes when digital tools are integrated through clear pedagogical planning. The stronger post-test performance of the experimental group supports the broader literature showing that TELL has become an increasingly important area of English education and that its effectiveness depends on how technology is pedagogically used rather than simply adopted. At the same time, the present findings align

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

with research showing that technology-enhanced learning can fail when design is fragmented, which further highlights the importance of instructional coherence in digital pedagogy (Hasumi & Chiu, 2024; Shadiev & Yang, 2020; Zhang et al., 2024).

The achievement gains in vocabulary, reading, and short written response can be explained by the repeated exposure and continuity built into the digital pedagogy model. Students did not rely solely on one-time classroom explanation. Instead, they encountered the material through teacher guidance, digital reinforcement, and follow-up tasks, which likely strengthened retention and comprehension. This interpretation is consistent with findings from blended EFL research showing that structured integration of in-class and online learning can improve language performance and learner perceptions across English learning contexts (Li, 2022; Wang et al., 2021; Oweis, 2018).

The engagement findings are equally important. Students in the experimental group showed stronger behavioral, emotional, and cognitive engagement, which suggests that digital pedagogy supported both visible classroom participation and deeper mental involvement in learning tasks. This aligns with research showing that engagement in digitally supported EFL settings is shaped by task design, teacher roles, classroom environment, and interaction quality. In other words, student engagement did not increase merely because technology was present, but because the activities were structured, relevant, and supportive (Huang et al., 2022; Gao et al., 2024; Ye, 2024; De Bruijn-Smolders & Prinsen, 2024).

The interview findings also suggest that digital pedagogy improved confidence and willingness to participate. Students reported that seeing the material beforehand or revisiting it later made classroom tasks less intimidating. This is consistent with studies linking engagement in online or technology-supported EFL learning to self-efficacy, social presence, interactive presentation tools, and positive preferences toward digital learning resources. When learners feel more prepared and supported, they are more likely to participate and persist (Wu, 2023; Tarazi & Ortega-Martín, 2023; Pikhart et al., 2024).

Another notable implication concerns the role of multimodal digital input. The higher gains in vocabulary and reading comprehension suggest that students benefited from exposure to language through more than one mode, such as text, visuals, audio, and short video. This matches previous research showing that digital storytelling, clustered digital materials, and other digitally mediated formats can enhance language performance and engagement when they create meaningful interaction and repetition. It also echoes broader findings from digital game-based language learning research, which emphasize the value of interactivity and repeated practice (Liang & Hwang, 2023; Salih & Omar, 2024; Xu et al., 2020).

The study also reinforces the importance of teacher competence in digital pedagogy. Technology-enhanced instruction was effective here partly because the tools were familiar, manageable, and clearly tied to lesson objectives. This supports research showing that teachers' digital literacy, perceptions of technology integration, and TPACK-related planning capacity are crucial for transforming technology into meaningful pedagogy. Without this instructional grounding, digital activities can become disconnected from learning goals (Feng & Sumettikoon, 2024; Akram et al., 2022; Wang, 2022).

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

Finally, the findings support the growing emphasis on design-oriented digital pedagogy in language education. Recent reviews suggest that technology-enhanced language learning becomes more effective when it is informed by pedagogical design, systematic planning, intelligent feedback, and structured opportunities for application. The present study reflects that logic: the digital pedagogy model worked because it linked explanation, reinforcement, and follow-up rather than treating digital tools as isolated classroom events. This indicates that effective TELL in secondary schools should be understood as a pedagogical system, not merely a technical choice (Liu et al., 2023; Weng & Chiu, 2023; Chen, 2024).

CONCLUSION

This study concludes that technology-enhanced language learning can significantly improve both English learning outcomes and student engagement in EFL classrooms when digital tools are integrated through clear pedagogical design. At SMA 13 Makassar, students who learned through a technology-enhanced model achieved higher post-test scores, demonstrated stronger behavioral, emotional, and cognitive engagement, and reported more positive experiences in English learning than students who learned through conventional instruction.

The findings suggest that the effectiveness of digital pedagogy lies not in technology itself, but in how technology is used to organize repetition, feedback, access, and participation. For EFL teachers, this means that even simple tools such as slides, videos, online quizzes, and messaging platforms can produce meaningful learning gains when they are aligned with instructional goals and supported by consistent teacher guidance. Future research may examine longer interventions, other language skills such as speaking and listening, and the effects of specific digital tools across different school contexts.

REFERENCES

Akram, H., Abdelrady, A. H., Al-Adwan, A. S., & Ramzan, M. (2022). Teachers' perceptions of technology integration in teaching-learning practices: A systematic review. Frontiers in Psychology, 13, 920317. https://doi.org/10.3389/fpsyg.2022.920317

Anthony, B., Kamaludin, A., Romli, A., Mat Raffei, A. F., Eh Phon, D. N. A. L., Abdullah, A., & Ming, G. L. (2022). Blended learning adoption and implementation in higher education: A theoretical and systematic review. Technology, Knowledge and Learning, 27, 531–578. https://doi.org/10.1007/s10758-020-09477-z

Chen, J. (2024). Effects of learning analytics-based feedback on students' self-regulated learning and academic achievement in a blended EFL course. System, 124, 103388. https://doi.org/10.1016/j.system.2024.103388

Crosthwaite, P., Luciana, & Wijaya, D. (2023). Exploring language teachers' lesson planning for corpus-based language teaching: A focus on developing TPACK for

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

corpora and DDL. Computer Assisted Language Learning, 36(7), 1392–1420. https://doi.org/10.1080/09588221.2021.1995001

De Bruijn-Smolders, M., & Prinsen, F. R. (2024). Effective student engagement with blended learning: A systematic review. Heliyon, 10, e39439. https://doi.org/10.1016/j.heliyon.2024.e39439

Ekmekçi, E. (2023). Pursuing a standardized content of a CALL course for pre-service EFL teachers: The procedure, impacts, and reflections. Computer Assisted Language Learning, 36(5–6), 1005–1039. https://doi.org/10.1080/09588221.2021.1968913

Feng, L., & Sumettikoon, P. (2024). An empirical analysis of EFL teachers' digital literacy in Chinese higher education institutions. International Journal of Educational Technology in Higher Education, 21, 42. https://doi.org/10.1186/s41239-024-00474-1

Gao, Z., Li, X., & Liao, H. (2024). Teacher support and its impact on ESL student engagement in blended learning: The mediating effects of L2 grit and intended effort. Acta Psychologica, 249, 104428. https://doi.org/10.1016/j.actpsy.2024.104428

Hasumi, T., & Chiu, M.-S. (2024). Technology-enhanced language learning in English language education: Performance analysis, core publications, and emerging trends. Cogent Education, 11(1), 2346044. https://doi.org/10.1080/2331186X.2024.2346044

Huang, M., Kuang, F., & Ling, Y. (2022). EFL learners' engagement in different activities of blended learning environment. Asian-Pacific Journal of Second and Foreign Language Education, 7, 9. https://doi.org/10.1186/s40862-022-00136-7

Li, R. (2022). Effects of blended language learning on EFL learners' language performance: An activity theory approach. Journal of Computer Assisted Learning, 38(5), 1273–1285. https://doi.org/10.1111/jcal.12697

Liang, J.-C., & Hwang, G.-J. (2023). A robot-based digital storytelling approach to enhancing EFL learners' multimodal storytelling ability and narrative engagement. Computers & Education, 201, 104827. https://doi.org/10.1016/j.compedu.2023.104827

Liu, T., Zhang, Z., & Gao, X. (2023). Pedagogical design in technology-enhanced language education research: A scoping review. Sustainability, 15(7), 6069. https://doi.org/10.3390/su15076069

Luo, Z., Abbasi, B. N., Yang, C., Li, J., & Sohail, A. (2024). A systematic review of evaluation and program planning strategies for technology integration in education: Insights for evidence-based practice. Education and Information Technologies, 29, 21133–21167. https://doi.org/10.1007/s10639-024-12707-x

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

Oweis, T. I. (2018). Effects of using a blended learning method on students' achievement and motivation to learn English in Jordan: A pilot case study. Education Research International, 2018, 7425924. https://doi.org/10.1155/2018/7425924

Pikhart, M., Klimova, B., & Al-Obaydi, L. H. (2024). Exploring university students' preferences and satisfaction in utilizing digital tools for foreign language learning. Frontiers in Education, 9, 1412377. https://doi.org/10.3389/feduc.2024.1412377

Salih, A. A., & Omar, L. I. (2024). Enhancing EFL learners' engagement in situational language skills through clustered digital materials. Frontiers in Education, 9, 1439104. https://doi.org/10.3389/feduc.2024.1439104

Shadiev, R., & Yang, M. (2020). Review of studies on technology-enhanced language learning and teaching. Sustainability, 12(2), 524. https://doi.org/10.3390/su12020524

Tarazi, A., & Ortega-Martín, J. L. (2023). Enhancing EFL students' engagement in online synchronous classes: The role of the Mentimeter platform. Frontiers in Psychology, 14, 1127520. https://doi.org/10.3389/fpsyg.2023.1127520

Wang, A. Y. (2022). Understanding levels of technology integration: A TPACK scale for EFL teachers to promote 21st-century learning. Education and Information Technologies, 27, 9935–9952. https://doi.org/10.1007/s10639-022-11033-4

Wang, N., Chen, J., Tai, M., & Zhang, J. (2021). Blended learning for Chinese university EFL learners: Learning environment and learner perceptions. Computer Assisted Language Learning, 34(3), 297–323. https://doi.org/10.1080/09588221.2019.1607881

Weng, X., & Chiu, T. K. F. (2023). Instructional design and learning outcomes of intelligent computer-assisted language learning: Systematic review in the field. Computers and Education: Artificial Intelligence, 4, 100117. https://doi.org/10.1016/j.caeai.2022.100117

Wu, R. (2023). The relationship between online learning self-efficacy, informal digital learning of English, and student engagement in online classes: The mediating role of social presence. Frontiers in Psychology, 14, 1266009. https://doi.org/10.3389/fpsyg.2023.1266009

Xu, Z., Chen, Z., Eutsler, L., Geng, Z., & Kogut, A. (2020). A scoping review of digital game-based technology on English language learning. Educational Technology Research and Development, 68, 877–904. https://doi.org/10.1007/s11423-019-09702-2

Ye, X. (2024). A review of classroom environment on student engagement in English as a foreign language learning. Frontiers in Education, 9, 1415829. https://doi.org/10.3389/feduc.2024.1415829

Teaching English as a Foreign Language Journal
ISSN 2461-0240 (Print), 2828-9544 (Online)
Volume 12 Number 3 December 2024

Yilmaz Ozden, S., Yang, H., Wen, H., & Harlow Shinas, V. (2024). Reflections from a teacher education course built on the TPACK framework: Examining the impact of the technology integration planning cycle on teacher candidates' TPACK development and practice. Social Sciences & Humanities Open, 9, 100869. https://doi.org/10.1016/j.ssaho.2024.100869

Zhang, R., Zou, D., & Cheng, G. (2024). Technology-enhanced language learning with null and negative results since 2000: A systematic review based on the activity theory. Education and Information Technologies, 29, 5017–5077. https://doi.org/10.1007/s10639-023-11993-1