

Interactive Learning Landscapes: Leveraging Technology for Dynamic Education in the Writing Classroom

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Abstract

This study explores the perceptions of EFL learners towards interactive learning tools in the Saudi environment; it also investigates how available technology can be leveraged to create dynamic learning environments. Using a mixed methods approach, the study conducted a survey with 70 EFL learners and focus group interviews with 10 students across two higher education institutions to examine writing skill development using the three interactive writing tools, viz., Blackboard, Pear Deck, and Flipgrid. Results indicate that Saudi EFL learners in higher education have a moderately positive perception towards the integration of technology in the EFL classrooms, as well as support the efficacy of these interactive tools in aiding learning in the writing classrooms. Moreover, perceptual change evidently positively impacted learners' writing as the performance in the post test showed an average improvement of between 19-24% in the scores. This examination of the interaction between learners and digital resources is likely to uncover insights into effective strategies for enhancing English language learning experiences and outcomes, and benefit a range of stakeholders.

Keywords: Blackboard, EFL, Flipgrid, Interactive learning, Pear Deck, technology

1. Introduction

Digital tools have become indispensable in the EFL/ESL classroom today (Suwartono & Aniranti, 2018). After the pandemic changed the world forever, it has dawned on humanity that technology can aid in the methodical organization, analysis, and retrieval of such information, particularly integrated data management systems (Al-Ahdal, 2020; Islam et al., 2020). This guarantees prompt submissions, alignment with various regulatory bodies' data requirements, and a lower chance of non-compliance with data-related regulations. The education sector has benefited from integration of technological tools in language education (Bin-Hady & Ali, 2024). Following the paradigm shift since the pandemic hit the world, English instructors have become more open to embrace technological advancements and use them as a means of achieving learning objectives (Chun et al., 2016). This new, revised approach to education has found favor with educators, parents and students, the primary stakeholders and the institutions, policy makers and funding agencies who are the secondary stakeholders in the sector (Viennet & Pont, 2017). This change finds the learners to be more engaged and motivated in the learning process, consequently changing the focus of teacher training from being teacher-centered to becoming student-focused (Ghafar, 2023). The idea is to use modern technologies to motivate students to practically develop English language abilities and to actively engage them in language study (Al-Ahdal & Alqasham, 2020; Chun et al., 2016). This can be attained through a learning environment that promotes openness and accessibility to the content and information using modern technology, and methods that motivate and assist students in engaging in language use with one another. Moreover, it seems that multimedia will be crucial to the systematic approach of teaching English following modern standards in terms of future growth.

Integration of technology has been an ongoing process in Saudi educational institutions and the spur was provided by the pandemic years to this long-standing endeavor of the policy makers (Quadri et al., 2017). However, the early attempts were limited to the less versatile tools whereas in recent years, many new interactive tools have been launched and are finding their way into the classrooms (ALzaharani, 2023). Moreover, interactive tools that add value to the writing skills of the learners are still few which necessitates frequent evaluation of learners' perceptions to their integration into the classrooms (Wanner & Palmer, 2015). In this background, the study aims to answer the following questions:

Research questions

1. What is the general perception of the Saudi EFL learners towards the integration of interactive technology in the EFL classroom?
2. What are the Saudi EFL learners' perceptions on writing skill development using the three interactive writing tools?
3. How is learners' writing performance impacted by the intervention?

2. Literature Review

The COVID-19 epidemic and its aftermath have made it even more imperative for education stakeholders to integrate technology with pedagogical practices (Hasumi, 2024). Attitudes and preparedness play a major role in teachers' adoption of technology in the classrooms (Teo et al., 2018). Studies vary in exploring the application of technology in language learning and teaching and have mostly examined the efficacy of a flipped learning model utilizing technology-enhanced just-in-time training and peer teaching (Zou et al. (2018). Some other studies explored how mobile learning platforms may lead to learner satisfaction (Zhonggen et al., 2018). Still some other studies focused on the use of technologies in developing learners' creativity and autonomy (Bin-Hady & Ali, 2024).

Vardhini (2023) discusses the usage of numerous digital technologies that aid in teaching and studying English. The study reported that using technologies inspired students to engage in the learning process and helped them to master the language skills. In another investigation which is based on the bioecological approach, Hasumi (2024) emphasizes the critical role that systemic factors have in influencing student learning outcomes across a range of abilities. Peer guidance and just-in-time teaching are two student-focused strategies that are rarely used in language classes but are commonly used in a variety of science courses. Zou et al. (2018) examined the efficacy of a flipped learning model utilizing technology-enhanced just-in-time training and peer teaching. The findings demonstrated that using flipped learning encourages students' writing abilities, motivation, and propensity for critical thought, the suggested approach worked better than the traditional model. The outcome of the study proved that the proposed approach outperformed the old approaches in the promotion of the development of learners' skills of writing, motivation, and tendency of critical thinking.

In collaboration with a university, Zhonggen et al. (2018) created a mobile learning platform called "College English IV" to determine whether this platform may lead to learner satisfaction, a reduction in cognitive loads for students taking EFL lessons, and a notable improvement in English as a foreign language (EFL). Following quantitative multivariate analysis and qualitative interview data analysis, the study reported that participants who used the mobile learning platform in EFL classes reported higher levels of satisfaction than those not using it.

The important role that instructors play in the right use of connected technologies should be taken into consideration to ensure the successful use of technology in the classroom for young learners. In this background, Taghizadeh and Yourdshahi (2020) investigated the attitudes, knowledge, and obstacles that young learners' English teachers have while attempting to include technological tools in their language classes. The study's findings showed that there was a broad trend in favor of integrating technology into lessons for young students. The findings also demonstrated that most teachers lacked the pedagogical and technological know-how necessary to effectively use technology in the instruction of young English language learners.

Furthermore, Zhang's (2020) reviewed 57 studies published in ten reputable journals about technology-enhanced language acquisition. Five main categories of technology for learning second and foreign languages were identified. These categories include mobile learning, multimedia learning and socialization, speech-to-text and text-to-speech recognition, and digital game-based learning. The findings also demonstrated that the four main goals and advantages of cutting-edge technologies are practice promotion, content delivery, interaction facilitation, and teaching approach restructuring. Furthermore, several facets of language teaching and learning have benefited from the integration of these cutting-edge technologies.

Another review by Wei (2022) looked at research on how technology affects students' motivation to study EFL. Related studies have confirmed a strong beneficial association between educational technology use and academic motivation. Research on how computer-assisted language learning (CALL) and mobile-assisted language learning (MALL) affect learners' motivation is desperately needed, though. Research has demonstrated that the intentional beauty, efficacy, and utility of digital tools can enhance learners' motivation. Increased learner motivation in educational technology contexts can also be attributed to several factors, including students' engagement in academic settings, interaction with native speakers, input flooding opportunities, and their integration with the community.

Teo et al. (2018) investigated the intent of English instructors in China to use technological devices for their classroom instruction, given the dichotomy between the widespread advocacy of technology usage in English teaching and the paucity of studies regarding teachers' adoption of technology in China. Eight variables were incorporated to examine relationships among these variables based on the technology acceptance model: computer self-efficacy (CSE), technology complexity (TC), facilitating conditions (FC), attitude toward use, behavioral intention (BI), perceived usefulness (PU), perceived ease of use (PEU), and constructivist teaching beliefs (CTBs). A self-report questionnaire was used to gather data from 183 English instructors at five Chinese universities, and a structural equation model was used for analysis. The suggested model fits the data quite well, according to the results. There were three factors identified: PU, FC, and CTBs. Though PEU and TC were not suitable. Moreover, PU, CSE, and CTBs had a significant impact on teachers' BIs while using technological devices.

Su and Zou (2020) examined 40 publications on technology-enhanced collaborative language learning from five perspectives: (1) publication type; (2) prior research theoretical frameworks; (3) technology types for collaborative language learning; (4) technology efficacy; and (5) implications. The outcome proved 10 theoretical frameworks, 9 different kinds of technological devices, and 11 uses of technological devices in improving collaborative linguistic learning. In this research main points for future design were also discussed and the impact of technology on enhanced collaborative linguistic learning activities were discussed.

3. Methodology

Research design

The study opted for a mixed-method approach to reveal the students' perceptions and motivation on the three major interactive tools being used in EFL classrooms currently, viz., Blackboard chat box, Pear Deck, and Flipgrid, all of which are modern learning tools compared to the first technological tools such as PPT, etc. The aim was to gather data on the efficacy of these on the EFL learners' writing skills, a productive skill that has been perceived as challenging by teachers as well as learners. Quantitative data was gathered using Google Forms-based survey, and findings were triangulated with data from focus group interviews conducted with the students to evaluate their perceptions of the three technologies in vogue for enhancing writing skills. Finally, the mandated writing tests at the learners' colleges of enrolment were used to compare the pre-post-performance to identify if skill development was evident in the post-stage.

Setting

This study was carried out at a higher academic institution, Saudi Arabia. It is to be pointed out here that this university mandates the successful completion of a semester-long Intensive Course Program (ICP) to prepare the students to enroll in the undergraduate program in EFL. The latter is 4-year long and comprises eight semesters or levels. In the first three of these, the focus and content center around grammar, vocabulary, phonics, and the four language skills, all of which are taught in the program. Levels 4-8 deal with the core courses like theoretical linguistics, descriptive linguistics, applied linguistics, literature and translation. Given the scope and aim of this study, it concerns itself with levels 1-3. Writing is one of the key components in these levels, with as many as three hours a week being allocated to writing. Thus, the total number of contact hours remains at 45 in one semester. Moreover, since the three interactive tools were the focus of this study, the researcher ensured that the writing courses were taught without applying conventional teaching methods and only using the tools.

Participants

The study followed Dornyei's (2007) stratified random sample of 70 EFL participants from separate EFL departments at this higher academic institution, followed by focus group interviews with 10 participants to triangulate the findings. The study sample was entirely Saudi with the participating learners sharing Arabic as their mother tongue and enrolled in two undergraduate programs at this university. The participants' age range was between 18 to 20 years, with the median age being 19.3 years, which shows both homogeneity of the sample and randomness, or "randomization" and "categorization". The participants were taken from two different courses in this study, and formal consent for participation was sought from the entire sample.

Instruments

A questionnaire was designed based on Alzain (2021) the basis for this study. The questionnaire itself was rooted in at least two of the previous studies (Ja'ashan, 2020; Uziak et al., 2018). The questionnaire was based on the five points Likert scale. The preliminary questionnaire was validated by three instructors in EFL who further recommended dropping at least two redundant items. The final questionnaire consisted of 14 items. Some modifications, especially in the wording of the statements, were necessary, and hence, duly made.

The final version was piloted with twelve EFL learners who shared all characteristics with the sample, but they were not part of the final survey. On the advice of the experts who validated the questionnaire, it was also translated into Arabic to ensure that none of the items were misinterpreted and only genuine, clean data were gathered. The items were loaded into two categories: the general perceptions on interactive technology in EFL classroom (7 items); the EFL learners' perceptions on writing skill development using the three interactive writing tools (7 items). Thus, the questionnaire included 14 items in its final version that was administered via Google Forms. Intimation on the availability and deadline to fill the form was shared on the learners' EFL class WhatsApp groups.

In the focus group interviews, the researcher initiated discussion to seek students' opinions (both positive and negative), perceptions, observations, and experiences etc. with the three tech tools used in the writing class, viz., Blackboard chat box, Pear Deck, and Flipgrid. The information collected through these interviews included learners' general perceptions on integration of technology in the EFL classes, and their perception on studying a specific course such as writing.

Data analysis

To be able to convert the responses to numerical values for later analysis, the questionnaire items were 'closed-ended', keeping the response options one-word only following the five-point Likert Scale as follows: Totally agree (5), Agree (4), Not sure (3), Disagree (2), Totally disagree (1). with the scope of the scale that is calculated as Very low 1 - 1.80, Low 1.81 - 2.60, Moderate 2.61 - 3.40, High 3.41 - 4.20, and Very High 4.21 - 5.00. All responses received in the survey were recorded onto Excel for statistical analysis. Full confidentiality of data was ensured by the researcher.

4. Results

Tech tools were first introduced at this higher academic institution as a compulsion following the pandemic safety guidelines. However, with positive teacher feedback on better learner engagement and motivation as a result of this change, in the post-pandemic times, the range of tools and their application were expanded as a matter of policy. In short, the average Saudi university learner is well-versed with tech enabled classrooms. In this section, we discuss the results of the survey taking one research question (and therefore one factor at a

time) and triangulate those findings with the leading themes that were generated through the focus groups. The survey was answered by all the enrolled participants and the researcher used descriptive statistics to evaluate learner perceptions.

The first research question was,

RQ1: What is the general perception of the Saudi EFL learners towards the integration of interactive technology in the EFL classroom?

The responses obtained from the participants are summarized in Table 1 below.

Table 1. General perceptions on the integration of interactive technology in EFL classrooms

No	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I feel positively disposed towards the interactive tools in my language class	4	7	24	14	21
2	The interactive tools are helpful in many ways	2	6	21	23	18
3	I feel comfortable while studying with tech based interactive tools	2	8	14	22	24
4	The interactive tools simulate the real classroom	22	20	10	10	8
5	I enjoy learning through interactive tools	8	10	12	18	22
6	I can access all my learning needs via these tools	0	18	18	14	20
7	The interactive tools are easy to use	0	4	2	26	38
Average	Frequency	5.42	10.42	14.42	18.14	21.57
	Percentage	7.75	14.89	20.61	25.91	30.81

The data summarized in Table 1 (1-7 items) deals with the students’ perceptions of the integration of interactive technology in EFL classrooms. Responses indicate a generally positive attitude to the use of interactive tech tools in the EFL classes with as many as 30.81% of the students expressing strong agreement 25.91% expressed their agreement indicating that 56.72% of the participants are with using technology in the writing classroom. On the other hand, 20.61% of the participants were neutral. Finally, 22.64% of the participants negatively perceived using technology in classroom (Strongly disagree=7.75, disagree =14.89).

The focus groups gave the students to share their individual learning experiences in interactive technology enabled classrooms. The leading themes identified were the psychological comfort that they can learn at their own pace and interact with the teacher without being judged by their peers.

FlipGrid was acknowledged by groups as a great way to engage in conversations while the feature of Pear Deck to hide student responses found a great deal of favor with the students.

RQ2: What are the Saudi EFL learners’ perceptions on writing skill development using the three interactive writing tools?

The participants’ responses to the survey items that pertained to the second research questions are summarized in Table 2 below.

Table 2. Learners’ perceptions on writing skills development using the three interactive writing tools

No	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
8	I like writing in blackboard’s chat box	2	12	20	18	18
9	The chat box improves my spelling as it corrects my mistakes	2	20	28	4	16
10	The audio files I receive on Pear Deck is a fun way for me to add to the slides	2	8	15	14	31
11	Topics posted on Flipgrid help me do my own research before I participate in a discussion	6	11	24	12	16
12	Using the interactive tools, I can freely write without fear or shame	2	5	14	24	25
13	I write longer sentences in the chat box	0	12	14	27	17
14	I write questions in the Blackboard when I face problems	1	2	9	27	31
Average	Frequency	2.14	10	17.71	18	22
	Percentage	3.06	14.28	25.30	25.71	31.42

Data summarized in Table 2 indicates that the students had positive perceptions of (57.14%) on developing writing skills using technology (Strongly agree =31.42%, Agree=25.71%). On the contrary, 17.34% of them showed their negative perceptions on using technology in developing writing skills, (Strongly disagree= 3.06%, disagree =14.28%). A quarter on them stayed neutral (25.30%). The results of the interview reported that Blackboard interactive tool is highly popular amongst the learners as it performs certain micro functions such as spell-check which and one-to-one teacher interaction which are not as easy in conventional classrooms for various reasons. Freedom to write in the chat box and the facility to write ingenuously also contribute to the positive attitudes to the use of the three interactive technology tools. Pear Deck and Flipgrid have unique features that add to learner engagement. The focus group interviews centered around the efficacy of Blackboard, Pear Deck and Flipgrid in the Saudi landscape revealed that spontaneity in writing, motivation to learn, and greater leverage to participate, are the factors that positively impacted learners’ perceptions to development of writing skills in English in

interactive tech-based classrooms.

RQ3: How is learners' writing performance impacted by the intervention?

Any new intervention is considered meaningful only when it can be used across learner groups (in different setting) and impacts learners' performance. In this study, this parameter was verified using the pre-post scores of the participants in the mandatory university writing exams. It may be noted that these exams are common for all learners and are conducted simultaneously. In this sense, these scores offered reliable data for comparisons of individual and group output. Moreover, in the absence of any other identifiable factor, it was presumed that any change can be a reliable indicator of the impact of the intervention. Results indicated that every participant logged improved performance in the post-test and the group range for this improvement varied between 19-24%. No remarkable differences could be observed in the performance of the two groups. When this data is collated with the perceptual data of the participants, it can be surmised that the intervention positively impacted learners' perceptions, which in turn, improved their writing output.

5. Discussion

The study reported the general perceptions of the Saudi EFL learners on integrating interactive technology in the EFL classroom. The study found only 56.72% of positive perceptions to tech use in writing classes which indicate that students do not realize the importance of interactive technology in the learning process.

The leading themes identified were the psychological comfort that they can learn at their own pace and interact with the teacher without being judged by their peers. The discussion also found that FlipGrid was a pivotal way to engage in conversations, while the feature of hiding student responses in Pear Deck was greatly favored by the students. This result disagreed with many studies which showed the positive impact of using technology in EFL students' learning.

The study also indicated that Saudi EFL students have moderately positive perceptions on the use of integrative technology in developing the writing skills. This finding agrees with Bin-Hady and Al-Tamimi (2021) reported that Yemeni students use four social media in their language learning. Svensson et al. (2021) pointed out that using assistive technology impact students' reading ability; technology assists students who encountered severe difficulties. Klimova (2017) too examined the usage of cellphones, tablets, and related apps for teaching foreign language have a good impact on learning English as a second language, particularly in terms of vocabulary growth and enhanced learning motivation. However, additional long-term randomized controlled trials are required to validate the effectiveness of smartphone and mobile app usage on language knowledge and skills.

Research on 21st century skills and technology-assisted language learning has been examined by Shadiev (2022). The rationale is that previous research only examined languages, language skills, and the technologies employed, reviewing only literature of technology-supported language acquisition. In other words, continuous evaluation of pedagogies especially in the contemporary digital world is a compulsion rather than a choice today.

The current study is unique as it examined the perceptions of learners to two recent tools (Pear Deck and Flipgrid) while Blackboard has been a universal learning tool across the country in the last several years.

6. Conclusion

Since instructional technology has become more widely used, scholars, teachers, and students have become more interested in technology-enhanced collaborative language learning. Numerous studies have been done to examine the impact of technology-enhanced collaborative learning on students' language acquisition and affective status. People in today's world must possess 21st-century abilities and skills, such as analytical and critical thinking, creative thinking, interpersonal communication, proficiency with technology, and teamwork. Because of this, instruction and learning in the modern era should support students' development of 21st century skills and abilities in addition to their acquisition of knowledge in a variety of learning contexts, including language learning contexts. Notably, the study found that learners are completely geared to learning in tech enabled interactive environments, this has also been proven by earlier studies. Nonetheless, several difficulties encountered by students throughout educational endeavors have also been documented. At the same time, the study sample noted that technology did not duplicate the conventional classroom. However, the type of device used for education may be an important factor in determining the achievement of learning goals.

7. Recommendations

Based on the results derived from this study, the following recommendations are pertinent:

1. Institutions of higher education should develop learning frameworks based on theories of multimedia learning and integration of educational technology.
2. Learner needs and perceptions to new and developing learning tools should be sought and favorable changes made in the policies and practices.
3. Digital learning materials, resources, and technological tools in the interactive learning landscapes should be analyzed in the specific educational paradigms of the nations.
4. Personalized learning based on individual learner needs, interests and multiple modalities catering to different learning preferences should be identified as technology is available to cater to these.

5. Connection of learning to the real world can only be assured with alignment of learning to suitable pedagogies, authentic tasks, and experiential learning opportunities.

8. Limitations

Given the specific scope of this study, one unavoidable limitation has been the absence of perceptual data from the teachers of EFL. The other limitation has been the relatively small sample size which was gender specific. It is hoped that future studies will tide over these limitations.

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References

- Al-Ahdal, A. A. M. H. (2020). Using computer software as a tool of error analysis: Giving EFL teachers and learners a much-needed impetus. *International Journal of Innovation, Creativity and Change*, 12(2), 67-190
- Al-Ahdal, A. A. M. H., & Alqasham, F. H. (2020). EFL writing tasks and the application of the concept of situatedness: Evaluating the theoretical and practical aspects of the Saudi EFL context. *TESOL International Journal*, 15(4), 167-190.
- Alsulami, S. (2016). The effects of technology on learning English as a foreign language among female EFL students at Effatt College: an exploratory study. *Canada – Studies in Literature and Language*, 12(4), 1-16.
- Alzahrani, M. (2023). *Towards developing an effective virtual reality instructional tool for secondary students learning English as a foreign language in Saudi Arabia* (Doctoral dissertation) RMIT University.
- Alzain, E. (2021). Examining Saudi students' perceptions on the use of the Blackboard platform during the COVID-19 Pandemic. *International Journal of Learning, Teaching and Educational Research*, 20(6), 109-125. <https://doi.org/10.26803/ijlter.20.6.6>
- Bin-Hady, W. R. A., & Ali, J. K. M. (2024). A study of Yemeni EFL students' perceptions on the role of learning technologies in developing creativity and autonomy. *Library Hi Tech*. <https://doi.org/10.1108/LHT-08-2023-0373>
- Bin-Hady, W.R.A. & Al-Tamimi, N.O.M. (2021). The use of technology in informal English language learning: evidence from Yemeni undergraduate students. *Learning and Teaching in Higher Education: Gulf Perspectives*, 17(2), 107-120.

<https://doi.org/10.1108/LTHE-09-2020-0037>

- Chun, D., Kern, R., & Smith, B. (2016). Technology in language use, language teaching, and language learning. *The Modern Language Journal*, 100(S1), 64-80. <https://doi.org/10.1111/modl.12302>
- Dornyei, Z. (2007). *Research methods in applied linguistics*. Oxford. Oxford University Press.
- Ghafar, Z. N. (2023). The teacher-centered and the student-centered: A comparison of two approaches. *International Journal of Arts and Humanities*, 1(1), 18-23. <https://doi.org/10.61424/ijah.v1i1.7>
- 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). <https://doi.org/10.1080/2331186X.2024.2346044>
- Islam, A., Islam, M., Hossain Uzir, M. U., Abd Wahab, S., & Abdul Latiff, A. S. (2020). The panorama between COVID-19 pandemic and Artificial Intelligence (AI): Can it be the catalyst for Society 5.0. *International Journal of Scientific Research and Management*, 8(12), 2011-2025. <https://doi.org/10.18535/ijstrm/v8i12.em02>
- Ja'ashan, M. N. H. (2020). The challenges and prospects of using e-learning among EFL students in Bisha University. *Arab World English Journal (AWEJ)*, 11(1) 124-137. <https://doi.org/10.31235/osf.io/7uvkr>
- Quadri, N. N., Muhammed, A., Sanober, S., Qureshi, M. R. N., & Shah, A. (2017). Barriers effecting successful implementation of e-learning in Saudi Arabian universities. *International Journal of Emerging Technologies in Learning (Online)*, 12(6), 94-107 <https://doi.org/10.3991/ijet.v12i06.7003>
- Su, F., & Zou, D. (2020). Technology-enhanced collaborative language learning: Theoretical foundations, technologies, and implications. *Computer Assisted Language Learning*, 35(8), 1754-1788. <https://doi.org/10.1080/09588221.2020.1831545>
- Suwartono, T., & Aniuranti, A. (2018). Digital teaching tools in 21st century EFL classroom: are our teachers ready? *ELLITE: Journal of English Language, Literature, and Teaching*, 3(2), 57-62. <https://doi.org/10.32528/ellite.v3i2.1916>
- Taghizadeh, M., & Yourdshahi, Z. H. (2020). Integrating technology into young learners' classes: language teachers' perceptions. *Computer Assisted Language Learning*, 33(8), 982-1006. <https://doi.org/10.1080/09588221.2019.1618876>
- Teo, T., Huang, F., & Hoi, C. K. W. (2018). Explicating the influences that explain intention to use technology among English teachers in China. *Interactive Learning Environments*, 26(4), 460-475. <https://doi.org/10.1080/10494820.2017.1341940>
- Uziak, J., Oladiran, M. T., Lorencowicz, E., & Becker, K. (2018). Students' and instructor's perspective on the use of Blackboard Platform for delivering an engineering course. *The Electronic Journal of e-Learning*, 16(1), 1-15. <https://doi.org/10.34190/ejel.16.1.2367>
- Vardhini, M. H. (2023). Role of digital tools in English language teaching. *Shanlax International Journal of English*, 12(1), 507-12. <https://doi.org/10.34293/rtdh.v12iS1-Dec.85>
- Viennet, R., & Pont, B. (2017). Education policy implementation: A literature review and proposed framework", *OECD Education Working Papers*, No. 162, OECD Publishing, Paris, <https://doi.org/10.1787/fc467a64-en>
- Wanner, T., & Palmer, E. (2015). Personalising learning: Exploring student and teacher perceptions about flexible learning and assessment in a flipped university course. *Computers & Education*, 88, 354-369. <https://doi.org/10.1016/j.compedu.2015.07.008>
- Wei, Y. (2022). Toward technology-based education and English as a foreign language motivation: A review of literature. *Frontiers in Psychology*, 13, 870540. <https://doi.org/10.3389/fpsyg.2022.870540>
- Zhang, R., & Zou, D. (2022b). Types, purposes, and effectiveness of state-of-the-art technologies for second and foreign language learning. *Computer Assisted Language Learning*, 35(4), 696-742. <https://doi.org/10.1080/09588221.2020.1744666>
- Zhonggen, Y., Ying, Z., Zhichun, Y., & Wentao, C. (2018). Student satisfaction, learning outcomes, and cognitive loads with a mobile learning platform. *Computer Assisted Language Learning*, 32(4), 323-341. <https://doi.org/10.1080/09588221.2018.1517093>
- Zou, D., & Xie, H. (2018). Flipping an English writing class with technology-enhanced just-in-time teaching and peer instruction. *Interactive Learning Environments*, 27(8), 1127-1142. <https://doi.org/10.1080/10494820.2018.1495654>