

Beyond the Classroom: Digital Language Learning in the Malaysian Context

Nur Amelia Mohd Nadzrin¹, Melor Md Yunus², Nur Ehsan Mohd Said³

^{1, 2 & 3} Faculty of Education, Universiti Kebangsaan Malaysia

¹ SJK(C) Chung Huah, Kampar

¹ p116543@siswa.ukm.edu.my

² melor@ukm.edu.my

³ nurehsan@ukm.edu.my

Article history:

Received: 9 May 2024

Accepted: 29 May 2024

Published: 1 June 2024

Abstract

The use of digital language learning in English Language Teaching (ELT) has become a global phenomenon, as it offers a variety of tools, like MALL, VR, and GBLL, to facilitate teaching and learning experiences. The COVID-19 pandemic has prompted changes in higher education institutions towards online teaching and learning, hastened the adoption of digital learning in Malaysia, and brought attention to ongoing issues with English language proficiency and the integration of digital tools in primary and tertiary education settings. Numerous studies have brought attention to the different problems that Malaysians face when learning a language digitally. By concentrating on DLL in Malaysian context, this conceptual paper seeks to provide an overview on types of DLL as well as identifying the challenges of DLL in Malaysian context. Various types of DLL encompass both synchronous and asynchronous learning. Additionally, the implementation and challenges of DLL in Malaysian before and after pandemic Covid 19 were discussed. The results contribute to the continuing conversation on practical approaches to improve DLL and language instruction, especially in Malaysia's diverse and multicultural context. Supporting DLL among educators and students can help achieve SDG 4 and align with the Malaysian Education Blueprint 2013-2025, ensuring high-quality education for all Malaysians.

Keywords: *Digital language learning, types of DLL, challenges of DLL*

Introduction

Digital language learning (DLL) has experienced significant advancements with the integration of digital technologies in language education. Technologies such as mobile-assisted language learning (MALL), virtual reality (VR), and digital game-based language learning (GBLL) have indeed transformed the landscape of language acquisition (Li & Yu, 2021). The utilization of digital platforms has reshaped English language teaching and learning, providing new opportunities for both educators and learners (Alakrash et al., 2022). Furthermore, the integration of digital technologies has not only influenced language learning within formal settings but has also extended to informal learning environments (Gonulal, 2019; Nugroho & Atmojo, 2022). Presently, learners are immersed in a digital learning environment, utilizing various technologies like smartphones and social media to enhance their language skills (Nugroho & Atmojo, 2022). Digital literacy plays a crucial role in English as a Foreign Language (EFL) teaching, enabling educators and students to effectively use digital technologies for language learning purposes (Hamidah, 2021). The COVID-19 pandemic has further accelerated the adoption of digital learning, leading educators to reconsider traditional teaching methods and embrace digital tools for pedagogical transformation (Mustapha, 2021). The shift towards

Universiti Teknologi MARA, Vol. 8, No. 2, 2024

digital pedagogies in modern language education has emphasized the importance of integrating digital resources to improve language learning outcomes (Spence & Brandão, 2020).

The COVID-19 epidemic has had a major impact on DLL in Malaysia, resulting in a move towards online teaching and learning (Karuppannan, 2021; Soon et al., 2022; Zakaria et al., 2021; Latip et al., 2020). Higher education institutions in Malaysia have had to adjust to the remote learning environment. Students now face difficulties with computer and internet efficacy as well as personal traits that impact their preparedness for online learning (Karuppannan, 2021). In order to guarantee continuous education, the Malaysian Ministry of Education has promoted the use of several online communication channels (Soon et al., 2022). Furthermore, the shift from conventional face-to-face instruction to online techniques has presented challenges for English instructors in Malaysian tertiary institutions (Zakaria et al., 2021). In addition, Malaysian education emphasises MALL (Mustaffa & Sailin, 2022). This is because even after years of exposure to English, students in Malaysia still struggle to grasp grammar by the time they graduate from secondary school (Paris et al., 2021). There has been research on the integration of digital reading in Malaysian primary schools, presenting the advantages and disadvantages from the viewpoint of the students (Baharuddin & Hashim, 2020). According to Saad et al. (2016), research has also concentrated on investigating the English language learning experiences of foreign students in Malaysia, providing insight into the shifting dynamics of language education in that nation.

DLL challenges are a variety of impediments that teachers and students face while using digital tools for language learning. Providing students with the necessary tools to handle contemporary technology in the classroom is a major difficulty (Moradi & He-fang, 2019). As part of this, it must be made sure that students possess the digital literacy required to use and interact with digital language learning platforms (Hafner, 2013). Furthermore, the transition from conventional face-to-face classroom settings to virtual learning, particularly hastened by the COVID-19 epidemic, has made it difficult to modify instructional strategies for the digital age (Nugroho & Atmojo, 2022). Furthermore, limitations in adopting flexible learning with language attitudes include poor motivation, network connection concerns, and difficulty in tracking progress (Dewantara et al., 2023). Educators may find it difficult to use digital storytelling to increase students' desire to study, especially if they are low-confidence and proficient English speakers (Kasami, 2021). Moreover, the hurdles in integrating digital applications for language learning are emphasised by the barriers that educators have while teaching local languages, such as the lack of textbooks and challenges in oral and written teaching techniques (Saputra & Mutiaz, 2021).

There are a variety of DLL challenges in Malaysia that need to be addressed in order to enhance language learning results. A number of studies by Chung et al. (2020), Alakrash & Razak (2021), Omar et al. (2021), Had & Rashid (2019), Tokiran et al. (2021), and Baharuddin & Hashim (2020) highlight the complex issues that come with learning a digital language in Malaysia. These issues include things like class-

room motivation, digital literacy, online learning readiness, teacher proficiency in digital skills, and the benefits and drawbacks of using digital reading in ESL classes. Therefore, it is imperative that this paper examine how language education is evolving in Malaysia and how digital technologies are becoming increasingly significant for language learning. The paper also points out research gaps regarding the effects of digital language learning on language proficiency and acquisition in Malaysia as well as the difficulties of successfully integrating digital tools into language classrooms.

Types of Digital Language Learning

Teachers turned to digital learning during the pandemic, with m-learning and e-learning becoming more significant (Fabrizz et al., 2020). According to Ali (2020), interest in online, remote, and distant learning is rising. English instructors encourage both synchronous and asynchronous learning by using a range of digital tools (Wahab et al., 2022). These technologies support collaborative learning and resource creation, based on their respective purposes (Wahab et al., 2022). In his analysis of synchronous learning vs conventional classroom education, Berestok (2021) underlined the importance of instructors and students being present at the same time. On the other hand, Ahmadi Julaihi (2023) argued that the location and time of the teaching and learning activities determine differentiation. Swan (2002) pointed out that regular interactions between teachers and students, a well-defined course design, and engaging discussions are all crucial elements of successful asynchronous education. Van der Keylen et al. (2020) characterise asynchronous environments as self-paced, individualised, and independent of location and time. By allowing students to access materials and engage in learning activities at their leisure, this approach fosters a customised learning experience (Van der Keylen et al., 2020). Additionally, it satisfies a variety of learning objectives by offering tailored coaching and feedback. Furthermore, asynchronous learning helps students who are shy or nervous by promoting independence and concentrated task engagement since it reduces emotional filters (Wahab et al., 2022). Among the popular asynchronous learning techniques mentioned by Wahab et al. (2022) were social media, gamified apps, interactive platforms, learning management systems (LMS), and open education resources (OER).

LMS is conceived as a digital learning centre that houses many learning platforms for effective teaching and learning (T&L). The majority of educators worldwide used learning management systems (LMS) that were either explicitly developed by their educational ministry or utilised by their own institution. For example, it is found that countries in the Middle East often use Madrasapati and Blackboard (Al Shlowiy, 2022; Alturise, 2020). The majority of Chinese colleges have created their own Massive Open Online Courses (MOOCs) to assist students in efficiently managing their learning, and the Moodle platform is still helpful in both primary and higher education institutions (Zhang et al., 2020). (Xie et al., 2022). All institutions have been utilising Madrasapati, an approved LMS from the Saudi Education Ministry, to help

ESL students learn a language efficiently (Al Shlowiy, 2023). This approach is quite similar to the one used by the Malaysian Education Ministry to implement DELIMA and establish its implementation in all schools (Tahir et al., 2022; Tamin & Mohamad, 2020). For better learning management, some LMS systems that are used include Google Classroom, Schoology, Moodle, and Blackboard. The outstanding usability and design of LMS has a major influence on online education, according to Alturise (2020) and Md. Osman (2022).

Open Educational Resources (OER) fills in the gaps left by inaccessible teaching-learning resources. This platform seeks to provide both teachers and learners with internet access to digital teaching and learning materials, while also facilitating students' independent study at any time and from any place. OER includes instructional websites such as those offered by the British Council, PBS Learning Media, and YouTube, to name just a few. These Open Educational Resources (OER) apps are a great tool for teachers to use since they provide engrossing audio and visual materials that let them customise excellent English resources to each student's unique learning style (Abbasi et al., 2022). Thus, this may be seen as an attempt to guarantee that all students, regardless of their individual learning needs and talents, have an equal chance to study.

Both gamified and interactive educational platforms employ game aspects, such as badges and points, to motivate and foster healthy competition among students (Mohandas et al., 2020). These elements engage students while also assisting teachers with grading. According to Mohandas et al. (2020), learning outcomes and student engagement are enhanced by gamified platforms that include rewards and progress monitoring. These features also encourage students to reflect on their own language acquisition. Additionally, due of the gamification elements and user-friendly interfaces, ESL students perceive language learning to be more interesting (Krishnan et al., 2021). Aside from that, synchronous and asynchronous communication methods on social networking sites (SNS) include Facebook chat and wall postings (Lee et al., 2011). Despite its synchronous features, SNS are often asynchronous learning aids that let users reply whenever it's convenient for them. Lee et al. (2011) claims that social media sites like Facebook, Instagram, and WhatsApp provide a wealth of information in authentic and dynamic learning environments. WhatsApp specifically helps ESL students with scaffolded learning by enabling customised, level-appropriate one-on-one learning sessions (Sari, 2020).

Real-time interactions in synchronous learning are made possible via live sessions facilitated by teleconferencing services like Zoom, Google Meet, or Microsoft Teams (Wang et al., 2023). With features like breakout rooms and live feedback, these platforms increase the effectiveness of teaching (Wang et al., 2023). Furthermore, the quick responses feature on platforms like Facebook and WhatsApp—support obfuscate the line between synchronous and asynchronous learning (Wahab et al., 2022). Teachers employ synchronous technologies to encourage real-time language use and provide language scaffolding to help students feel less alone (Wahab et al., 2022). Educators may stop the trend of passive learning by using

platforms such as Zoom to monitor student conduct and involvement (ElSayary et al., 2022). However, ElSayary et al. (2022) caution that in the absence of deep and personal connection, the quality of learning in virtual environments may suffer. Strong internet connection facilitates peer and teacher engagement and helps to meet language learning goals (ElSayary et al., 2022).

Digital Language Learning in Malaysian Context

The revolution of digital language learning (DLL) in Malaysia is a multifaceted process influenced by technological advancements, educational policies, and evolving pedagogical practices. By embracing digital technologies and innovative teaching methodologies, Malaysia is poised to enhance language education and meet the diverse needs of learners in the digital age. The Malaysian government's initiatives, such as the introduction of Massive Open Online Courses (MOOCs) (Shamsudin et al., 2023), reflect a broader push towards digitalizing education to enhance accessibility and provide more learning opportunities for all. In the multicultural and multilingual Malaysian context, immersive language learning experiences are natural and beneficial for learners, emphasizing the importance of practicing locally spoken languages in immersive settings (Gabarre et al., 2016). Moreover, the adoption of e-learning among ESL teachers in Malaysia for professional development (Omar & Hashim, 2021) and the review of digital skills among Malaysian English language teachers (Had & Rashid, 2019) underscore the growing importance of digital literacy and skills in the Malaysian education landscape. The emphasis on communicative skills, such as active listening and social expression, aligns with the evolving demands of 21st-century learning in Malaysia (Raj et al., 2019).

The landscape of DLL in Malaysia has undergone significant transformations before and after the COVID-19 pandemic. Prior to the pandemic, there was a growing emphasis on integrating digital technologies in language education, as highlighted by (Alakrash & Razak, 2022). This integration was seen as crucial for enhancing language teaching and learning processes by providing access to a variety of linguistic resources and information. However, the outbreak of COVID-19 necessitated a rapid shift towards online and distance learning, impacting the traditional methods of language education (Çevik & Bakioğlu, 2021). During the pandemic, the education sector in Malaysia, including language education, faced challenges and disruptions. The sudden shift to online learning forced educators to adapt quickly to new digital platforms and tools (Ismail et al., 2021). Ismail et al. also mentioned that students' perceptions towards online distance learning during the pandemic varied, with some embracing the change while others faced challenges in adjusting to the new learning environment. The impact of COVID-19 on language education was not limited to Malaysia but was a global phenomenon that required educators to rethink their teaching strategies and approaches (Alakrash & Razak, 2022).

In response to the pandemic, there was a surge in research focusing on the impact of digital learning on student motivation and engagement. Studies such as Lee et al. (2023) explored the influence of digital

learning on students' motivation, highlighting the importance of understanding students' preferences for digital platforms. Additionally, the adoption of digital technologies in language teaching, such as Blackboard Collaborate, was positively received by both teachers and students, indicating a potential continuation of such technologies post-pandemic (Khafaga, 2021). Looking ahead after the post-pandemic era presents opportunities for further advancements in DLL in Malaysia. Educators can leverage the lessons learned during the pandemic to enhance the integration of digital technologies in language education (Alakrash & Razak, 2022). The shift towards online learning has also highlighted the importance of digital literacy and skills among both educators and students. By embracing technology and innovative pedagogical practices, Malaysia can continue to revolutionize language education in the digital age.

Meanwhile, DLL in Malaysia presents various challenges that need to be addressed. Chung et al. (2020) highlighted the importance of online learning readiness among university students in Malaysia, particularly in the context of the COVID-19 pandemic. Alakrash & Razak (2021) emphasized the significance of digital technology and digital literacy in language learning, offering insights for policymakers on integrating technology in language classrooms. Other than that, Omar et al. (2021) conducted a comparative study on academic motivation in online English classes in Malaysia, revealing potential issues faced by students. Had & Rashid (2019) reviewed the digital skills of English language teachers in Malaysia, shedding light on challenges faced by educators in utilizing digital tools for language teaching. Moreover, Tokiran et al. (2021) discussed challenges in implementing digital culture environments in rural communities in Malaysia, providing insights into broader challenges in digital language learning initiatives. Furthermore, Baharuddin & Hashim (2020) examined the strengths and shortcomings of digital reading in Malaysian primary ESL classrooms, offering valuable perspectives on challenges learners may encounter in digital language learning settings.

Conclusion

In conclusion, there are many different kinds and methods of digital language learning (DLL), and each presents different advantages and difficulties for both teachers and students. The integration of digital technologies has revolutionised language education by offering opportunities for personalised learning and enhanced engagement. These opportunities range from asynchronous learning tools like Learning Management Systems (LMS) and Open Educational Resources (OER) to interactive platforms and gamified learning environments. Technological developments, educational policies, and the changing demands of students have all had an impact on the adoption of DLL in Malaysia. In spite of obstacles including digital literacy, readiness for online learning, and problems with implementation in rural areas, Malaysia has made great progress in utilising digital technologies to improve language instruction. The COVID-19 pandemic hastened the spread of digital learning and forced educators to reconsider conventional teaching strategies in favour of cutting-

edge pedagogies. Moving forward, improving language education in Malaysia and guaranteeing fair access to high-quality learning opportunities for all students would require tackling the difficulties and seizing the chances given by DLL.

Implications

In line with Sustainable Development Goal 4 (SDG4), which calls for promoting inclusive and equitable quality education for everyone, embracing digital language learning (DLL) has the potential to improve the standard and accessibility of education in Malaysia. The incorporation of digital technologies into language instruction in Malaysian schools has the potential to enhance academic achievements and equip learners for the digital age. Educators hold a crucial position in the execution of DLL, as they modify their teaching approaches and utilise technological resources to craft captivating and productive educational opportunities. By providing individualised and engaging learning experiences, DLL can help learners become more motivated and engaged in the process of learning a language. From a policy perspective, comprehensive approaches are required to facilitate the integration of DLL in Malaysian education. These approaches should include funding for digital infrastructure, teacher professional development, and curriculum design guidelines. By supporting innovative teaching methods and digital literacy, educators and students may be better equipped to succeed in the digital age, which will ultimately help to achieve SDG 4 and provide high-quality education for all Malaysians. This is also aligned with the Malaysian Education Blueprint 2013-2025.

Recommendations

For future research, it is imperative to delve deeper into several key areas to further enhance digital language learning (DLL) in the Malaysian context. Educators and policymakers would benefit greatly from an examination of the efficacy of diverse digital tools and platforms in addressing certain language learning objectives and problems. Furthermore, investigating cutting-edge educational strategies that incorporate DLL into language curriculum may present fresh insights into maximising learning objectives. Moreover, investigating the effects of DLL on learners' motivation, engagement, and language competency in various demographic groups would enhance the understanding of its advantages and drawbacks. Furthermore, it is crucial to consider the socio-cultural elements that impact the acceptance and execution of DLL in Malaysia, specifically in remote and marginalised areas, in order to foster fair and equal access to high-quality language instruction. Last but not least, longitudinal research evaluating the long-term impacts of DLL on students' academic performance and language proficiency would provide insightful data for forming future educational practices and regulations. Scholars may further the subject of DLL and promote inclusive and efficient language instruction in Malaysia by tackling these research shortcomings.

Author contributions

Conceptualization, N.A.M.N., M.M.Y. and N.E.M.S.; methodology, N.A.M.N.; validation, M.M.Y. and N.E.M.S.; writing—original draft preparation, N.A.M.N.; writing—review and editing, N.A.M.N., M.M.Y. and N.E.M.S.; visualization, N.A.M.N.; supervision, M.M.Y. and N.E.M.S. All authors have read and agreed to the published version of the manuscript.

Data availability statement

The original contributions presented in this paper are included in the article/supplementary material, further inquiries can be directed to the corresponding authors.

Conflicts of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be constructed as a potential conflict of interest.

References

- Abbasi, W.T., Ibrahim, A.H., & Ali, F.B. (2022). Perceptions about English as second language teachers' technology based English language teaching in Pakistan: Attitudes, uses of technology and challenges. In: Al-Emran, M., Al-Sharafi, M.A., Al-Kabi, M.N., Shaalan, K. (Eds) *Proceedings of International Conference on Emerging Technologies and Intelligent Systems. ICETIS 2021*. Lecture Notes in Networks and Systems, 299.
- Ahmadi Julaihi, A. (2023). The comparing the impact of asynchronous online quizzes on student learning outcomes in a computer communication and networking course. *Journal of Cognitive Sciences and Human Development*, 9(1), 125–139.
- Alakrash, H. and Razak, N. A. (2021). Technology-based language learning: investigation of digital technology and digital literacy. *Sustainability*, 13(21), 12304. <https://doi.org/10.3390/su132112304>
- Alakrash, H., Razak, N. A., & Krish, P. (2022). The application of digital platforms in learning English language. *International Journal of Information and Education Technology*, 12(9), 899-904. <https://doi.org/10.18178/ijiet.2022.12.9.1699>
- Ali, P., & Younas, A. (2020). Understanding and interpreting regression analysis. *Evidence Based Nursing*, 24(4), 116–118. <https://doi.org/10.1136/ebnurs-2021-103425>
- Al Shlowiy, A. (2022). Teachers' reflection of students' engagement in online language learning: Multi-case study. *International Journal of Educational Methodology*, 8(2), 285-295.

- Al Shlowiy, A. (2023). Language learners' disengagement in e-Learning during Covid-19: Secondary teachers' views. *World Journal of English Language*, 13(1).
- Alturise, F. (2020). Evaluation of the Blackboard learning management system for full online courses in western branch colleges of Qassim University. *International Journal of Emerging Technologies in Learning*, 15(15), 33-50.
- Baharuddin, N. Q. and Hashim, H. (2020). Using digital reading in ESL Malaysian primary classrooms: the strengths and the shortcomings from the learners' perspectives. *Journal of Educational and Learning Studies*, 3(1), 7. <https://doi.org/10.32698/0832>
- Berestok, O.V. (2021). Synchronous and asynchronous e-learning modes: strategies, methods, objectives. *Engineering and Educational Technologies*, 2021, 9(1): 19–27.
- Chung, E., Subramaniam, G., & Dass, L. C. (2020). Online learning readiness among university students in Malaysia amidst covid-19. *Asian Journal of University Education*, 16(2), 45. <https://doi.org/10.24191/ajue.v16i2.10294>
- Çevik, M. and Bakioglu, B. (2021). Investigating students' e-learning attitudes in times of crisis (covid-19 pandemic). *Education and Information Technologies*, 27(1), 65-87. <https://doi.org/10.1007/s10639-021-10591-3>
- Dewantara, I. P. M., Sutama, I. M., & Yasa, I. N. (2023). Flexible learning containing language attitude. *Proceedings of the Unima International Conference on Social Sciences and Humanities (UNICSSH 2022)*, 348-354. https://doi.org/10.2991/978-2-494069-35-0_43
- ElSayary, A., Mohebi, L., & Meda, L. (2022). The impact of the relationship of social/emotional, cognitive, and behavioral engagements on developing preservice teachers' digital competencies. *Journal of Information Technology Education: Research*, 21, 269-295.
- Fabriz, S., Mendzheritskaya, J., & Stehle, S. (2020). Impact of synchronous and asynchronous settings of online teaching and learning in Higher Education on students' learning experience during COVID-19. *Frontiers in Psychology*, 12.
- Gabarre, C., Gabarre, S., Din, R., Shah, P. M., & Karim, A. A. (2016). Scaffolding engagement in the immersive t-mall classroom. *Creative Education*, 07(02), 349-363. <https://doi.org/10.4236/ce.2016.72035>
- Gönülal, T. (2019). The use of Instagram as a mobile-assisted language learning tool. *Contemporary Educational Technology*, 10(3), 309-323. <https://doi.org/10.30935/cet.590108>
- Had, M. Z. C. and Rashid, R. A. (2019). A review of digital skills of Malaysian English language teachers. *International Journal of Emerging Technologies in Learning (iJET)*, 14(02), 139. <https://doi.org/10.3991/ijet.v14i02.8732>

- Hafner, C. A. (2013). Embedding digital literacies in English language teaching: students' digital video projects as multimodal ensembles. *TESOL Quarterly*, 48(4), 655-685. <https://doi.org/10.1002/tesq.138>
- Hamidah, N. (2021). Digital literacy in EFL teaching. *ELTALL: English Language Teaching, Applied Linguistic and Literature*, 2(2), 90. <https://doi.org/10.21154/eltall.v2i2.3213>
- Ismail, W. I., Latif, R. A., & Othman, M. B. (2021). Students' perception towards online distance learning(ODL) during covid-19 pandemic in undergraduate students of faculty of health science. *International Journal of Academic Research in Business and Social Sciences*, 11(9). <https://doi.org/10.6007/ijarbss/v11-i9/11081>
- Karuppannan, G. (2021). Challenges faced by Malaysian government school teachers to conduct online lessons for the secondary school students during covid-19 pandemic. *International Journal of Social Science and Human Research*, 04(08). <https://doi.org/10.47191/ijsshr/v4-i8-05>
- Kasami, N. (2021). Can digital storytelling enhance learning motivation for EFL students with low proficiency and confidence in English?. *The EuroCALL Review*, 29(1), 68. <https://doi.org/10.4995/eurocall.2021.12754>
- Khafaga, A. F. (2021). The perception of blackboard collaborate-based instruction by EFL majors/teachers amid covid-19: a case study of Saudi universities. *Dil Ve Dilbilimi Çalışmaları Dergisi*, 17(2), 1160-1173. <https://doi.org/10.17263/jlls.904145>
- Krishnan, S.D., Norman, H., & Yunus, M. M. (2021). Online gamified learning to enhance teachers' competencies using Classcraft. *Sustainability*, 13, 10817.
- Latip, M. F. A., Noh, I., Tamrin, M., & Latip, S. N. N. A. (2020). Students' acceptance for e-learning and the effects of self-efficacy in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 10(5). <https://doi.org/10.6007/ijarbss/v10-i5/7239>
- Lee, G., Lee, J., & Kwon, S. (2011). Use of social-networking sites and subjective well-being: A study in South Korea. *Cyberpsychology Behavior and Social Networking*, 14(3), 151–155.
- Lee, J. X., Azman, A. H. A., Ng, J. Y., & Ismail, N. A. S. (2023). Open distance learning in medical education: does it improve students' motivation?. *SAGE Open*, 13(1), 215824402311576. <https://doi.org/10.1177/21582440231157687>
- Li, P. and Yu, L. (2021). Digital language learning (DLL): insights from behavior, cognition, and the brain. *Bilingualism: Language and Cognition*, 25(3), 361-378. <https://doi.org/10.1017/s1366728921000353>
- Md Osman, S.Z. (2022). Combining synchronous and Asynchronous Learning: Student Satisfaction With Online Learning Using Learning Management Systems. *Journal of Education and E-Learning Research*, 9(3), 147–154.
- Mohandas, E.S., Hussin, A.A., & Ahmad, T.S.A.S. (2020). Language gamification in ESL classroom: Teaching perspective. *European Journal of Open Education and E-learning Studies*, 5(2).

- Moradi, H. & He-fang, C. (2019). Digital storytelling in language education. *Behavioral Sciences*, 9(12), 147. <https://doi.org/10.3390/bs9120147>
- Mustaffa, N. U. C. & Sailin, S. N. (2022). A systematic review of mobile-assisted language learning research trends and practices in Malaysia. *International Journal of Interactive Mobile Technologies (iJIM)*, 16(05), 169-198. <https://doi.org/10.3991/ijim.v16i05.28129>
- Mustapha, W. Z. H. W. (2021). Glocal initiatives in fostering collaboration in pedagogical transformation: lessons from Universiti Teknologi Mara, Malaysia. *KnE Social Sciences*, 3-16. <https://doi.org/10.18502/kss.v5i4.8657>
- Nugroho, A. & Atmojo, A. E. P. (2022). Digital learning of english beyond classroom: efl learners' perception and teaching activities. *JEELS (Journal of English Education and Linguistics Studies)*, 7(2), 219-243. <https://doi.org/10.30762/jeels.v7i2.1993>
- Omar, N. & Hashim, H. (2021). A survey on the acceptance of e-learning for professional development amongst English as a second language (ESL) teachers in Malaysia. *Creative Education*, 12(05), 1027-1039. <https://doi.org/10.4236/ce.2021.125075>
- Omar, S., Shaharuddin, W. Y. W., Nawli, N. S. M., Zaini, N., & Syahfutra, W. (2021). Academic motivation in English online classes: a comparative study of universities in Malaysia and Indonesia. *Indonesian Journal of Applied Linguistics*, 11(2). <https://doi.org/10.17509/ijal.v11i2.34538>
- Paris, T. N. S. T., Manap, N. A., Abas, H., & Ling, L. M. (2021). Mobile-assisted language learning (mall) in language learning. *Journal of ASIAN Behavioural Studies*, 6(19), 61-73. <https://doi.org/10.21834/jabs.v6i19.391>
- Raj, S. A. P. S., Ann, W. H. T., Subramaniam, P., & Yunus, M. M. (2019). Using youtube as a platform to learn social expression. *Creative Education*, 10(02), 288-296. <https://doi.org/10.4236/ce.2019.102023>
- Saad, N. S. M., Sidek, H. H. M., Baharun, H., Idrus, M. M., & Yunus, M. M. (2016). A conceptual framework to explore the English language learning experiences of international students in Malaysia. *IJAEDU- International E-Journal of Advances in Education*, 2(6), 453-453. <https://doi.org/10.18768/ijaedu.281043>
- Saputra, A. P. and Mutiaz, I. R. (2021). The potential of digital application development for learning local language Paser. *Advances in Social Science, Education and Humanities Research*. <https://doi.org/10.2991/assehr.k.211228.071>
- Sari, F.M. (2020). Exploring English learners' engagement and their roles in the online language course. *Journal of English Language Teaching and Linguistics*, 5(3), 349-361

- Shamsudin, A., Mamat, S. N., Pauzi, N. F. M., & Karim, M. S. (2023). Adapting to changing expectations: accounting students in the digital learning environment. *International Journal of Information and Education Technology*, 13(1), 166-175. <https://doi.org/10.18178/ijiet.2023.13.1.1792>
- Soon, C. T., Loi, C. K., Lian, L. Y., & Rahim, S. A. (2022). Language learning engagement among Malaysians undergraduates during MCO 1.0. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 7(7), e001619. <https://doi.org/10.47405/mjssh.v7i7.1619>
- Spence, P. and Brandão, R. A. (2020). Critical digital pedagogies in modern languages – a tutorial collection. *Modern Languages Open*, 1. <https://doi.org/10.3828/mlo.v0i0.343>
- Swan, K. 2002. Building Learning Communities in Online Courses: the importance of interaction. *Communication & Information*, 2(1), 23-49.
- Tahir, M.H.M., Shak, M.S.Y., Adnan, A.H.M., Shah, S.M., Zaini, M.F., Ling, L.Y., & Piaralal, S.D. (2022). Factors influencing secondary English as a second language teachers' intentions to utilize Google Classroom for instructions during the Covid-19 pandemic. *Arab World English Journal (AWEJ)*, 13(2), 17- 36.
- Tamin, N.H., & Mohamad, M. (2020). Google Classroom for teaching and learning in Malaysia primary school during movement control order (MCO) due to Covid-19 pandemic: A literature review. *International Journal of Multidisciplinary Research and Publications*, 3(5), 34-37.
- Tokiran, N. S. M., Hussin, N., & Shahibi, M. S. (2021). Challenges in implementation of digital culture environment among rural community in Malaysia: an overview. *Journal of Asian Scientific Research*, 11(3), 25-33. <https://doi.org/10.18488/journal.2.2021.113.25.33>
- Van der Keylen, P., Lippert, N., Kunisch, R., Kühlein, T., & Roos, M. (2020). Asynchronous, digital teaching in times of COVID-19: a teaching example from general practice. *GMS journal for medical education*, 37(7), 98.
- Wahab, A.N, Othman, J., Kadar, R., & Warris, S.N. (2022). Online learning modes: synchronous and asynchronous. *Exploring New Innovation In e-Learning: Unit Penulisan & Penerbitan JSKM*. ISBN 978-967-25608-3-8
- Wang, Q., Wen, Y., & Quek, C. L. (2023). Engaging learners in synchronous online learning. *Education and Information Technologies*, 28(4), 4429–4452.
- Xie, Y., Huang, Y., Luo, W., Bai, Y., Qiu, Y., & Ouyang, Z. (2022). Design and effects of the teacher-student interaction model in the online learning spaces. *Journal of Computing in Higher Education*, 35, 69-90.
- Zakaria, Z., Bakar, A. Y. A., Harun, H., Manap, M. R., Spawi, M., Ali, M. Z. M., ... & Usop, R. (2021). Promoting language enrichment activities through social learning platform among Malaysian gifted students. *Creative Education*, 12(08), 1805-1817. <https://doi.org/10.4236/ce.2021.128137>

Zhang, Y., Ghandour, A., & Shestak, V. (2020). Using learning analytics to predict students' performance in Moodle LMS. *International Journal of Emerging Technologies in Learning*, 15(20), 102-115.