

The Application of Digital Platforms in Learning English Language

Hussien Mohamad Alakrash, Norizan Abdul Razak, and Pramela Krish

Abstract—The emergence of digital learning has reshaped English language teaching and learning. Thus, technology-based language learning gained extensive attention due to its benefits. However, the trends of using these digital platforms in English language learning in the Arab EFL context have not been sufficiently scrutinized. Therefore, this study investigates EFL students' use of digital platforms for learning purposes, attitudes, and digital literacy. Also, the study examines the correlation between students' digital literacy skills, attitudes, and using digital platforms for learning purposes. The study used a quantitative research design by collecting data from 80 EFL who were selected randomly to answer a survey questionnaire. Data were analysed using SPSS 23.0 software. The results revealed that students showed a high level of attitudes, a moderate level of digital literacy skills, and a moderate level of using digital platforms for learning purposes. The findings showed a negative non-significant relationship between students' use of digital platforms in learning the English language, digital literacy skills, and attitudes. Based on the results, attitude and digital literacy do not predict the use of digital platforms for learning English. This study contributes significantly to the limited studies that examine the use of the digital platform for pedagogical purposes. The results recommend further investigation in addressing factors that hinder the use of digital platforms in EFL classrooms.

Index Terms—Digital platforms, English language learning, EFL students, digital literacy, technology usage, Education 4.0.

I. INTRODUCTION

Digital technology has an immense impact on language learning and teaching. The emergence of the modern digital platform has resulted from the accessibility and availability of resources accessed through digital technologies [1]. Recently, policymakers were forced to reform schools by the integration of digital technology [2]. The increasing acceptance of digital technology has necessitated the promotion of foreign language learning/teaching, especially in areas where there is inadequate exposure to genuine resources and materials. Nowadays, technology-based language learning has become the most appealing to the digital natives' needs. Digital technologies have impacted various aspects of language learning, such as modern learning management systems, autonomous, self-paced, collaborative learning, as well as socio-constructivist target language acquisition. For these aspects of language learning,

the common ground remains the central premise of communicative language teaching; i.e., learning by participating/doing rather than just dictating. In the era of the Fourth Industrial Revolution (4IR), language learning could be improved with the flow of information via modern digital technologies. Language teachers, in the new era, are supposed to be reflective in their teaching practices and adapt to the modern teaching styles i.e. student-centred classroom [3] as teachers' professional development positively affects students' performance and concurrently enhance their academic achievement [4].

E-learning has gained high interest as modern language learning and teaching style [5]. The definition of E-learning as stated by Wu [6] is the application of digital technologies in educational settings. Positive attitudes and digital literacy skills are the main factors in assuring the success of using digital technologies in language learning [7], [8]. Attitudes and skills have become primary and important measures of the success of the learning process using digital technologies. Digital literacy skills can be defined as the ability to use e-learning resources and multimedia technologies to enhance learning quality [9].

The usage of digital platforms is represented by the implementation of technical aspects in terms of the use of knowledge transfer such as Social Networks Sites (SNSs) [10]. However, mutual understanding is pertinent in establishing a good rapport among students as well as their relationships with teachers in terms of embracing this integration of technology in the classroom. Redesigning the classroom by integrating technology is highly dependent on students' skills and attitudes as well as their willingness and motivation [11]. Several studies have investigated the impact and effectiveness of digital platforms in Japan [12], in Korea [13], but no study has been conducted on the use of digital platforms in EFL students in Malaysia. Moreover, previous studies investigated the use of the impact of digital platforms on language skills like writing skills [14] and pronunciation [15], but no study investigated language skills as a whole. Therefore, this study will fill the literature gap.

This paper contributes significantly to the research of technology-based language learning and teaching in the current context which has been receiving a growing interest lately. Today's demand for technology-based teaching and learning methods to develop highly qualified learners capable of learning in an active and collaborative environment calls for the integration of technology-based activities. The findings will enable policymakers, teachers and students to face the challenges of thriving in the new normal of teaching and learning. This study also contributes to a better understanding of patterns of using the digital platform in English language learning. Moreover, Effective

Manuscript received December 28, 2021; revised February 16, 2022.

Hussien Mohamad Alakrash, Norizan Abdul Razak, and Pramela Krish are with Centre for Research in Language and Linguistics, Universiti Kebangsaan Malaysia, Malaysia (e-mail: Hussienalakrash94@gmail.com, norjef@ukm.edu.my, Pramela@ukm.edu.my).

integration of smart technologies requires an in-depth understanding of how digital platforms impact language learning where not much is known about how, when, and for what purpose they are used in language education.

II. THE CURRENT STUDY

To this end, the study aims to answer the following :

- 1) What are the attitudes of EFL students towards using SNS in learning English?
- 2) What is the level of EFL students' digital literacy in using the digital platform?
- 3) What are the pedagogical uses of digital platforms among EFL students?
- 4) What are the language aspects improved by using digital platforms?
- 5) Is there a significant relationship between attitudes, digital literacy and using digital platforms for pedagogical purposes?

H1. Attitude has a significant relationship with the usage of digital literacy

H2. Digital literacy has a significant relationship with students use of digital technologies.

III. LITERATURE REVIEW

The inclusion of digital technology in the teaching and learning process is represented by blended learning and e-learning, which have led to the re-evaluation of the role of the teacher as a knowledge source to a facilitator. Recently, there is growing interest in the need to facilitate the learning process in assisting the learners to construct and personalize learning [16]. Educational institute around the world has been taking critical procedures to redesign the EFL classroom to adapt to the new normal of education to enable students to be self-directed and independent to expand their knowledge rather than follow the traditional learning methods like the grammar translation method [17]. Today's classrooms need to be arenas for innovative teaching practices that are not easily implemented in more traditional classrooms [18]. The dependency on technology as the primary source in the classroom has changed the role of teachers or educators as well according to the requirement and needs of the learning session [19]. Students' concentration and interest are the main concerns in establishing an effective learning environment. Students' behaviour affects the whole learning process and progress [20] as the unlikely behaviour can be linked to non-homework completion classroom misbehaviours like sleeping. Technology usage increase students' engagement in learning activities. It shows that the presence of technology-supported with strategic plans can motivate the students to engage in classroom's activities.

One of the strategic plans for digital technology integration in the classroom is known as the redesigned classroom. This strategy was initiated by the Ministry of Education (MoE) with the ultimate goal to provide students with access to authentic materials, and interactive and engaging content through the use of digital technologies.

This move is to enable a supportive and conducive classroom environment towards better academic achievements. The engaging and interactive classroom in this context can be seen with the physical arrangement of tables and chairs flexibly, the use of the internet in teaching and learning, the use of vibrant colours painted on the walls, air-conditioned and well-lit classroom condition [21].

A. Fourth Industrial Revolution (4IR)

The fourth industrial revolution is the newest industrial transformation that is based on cyber-physical systems, big data, automation, data exchanges, cloud, robots, Artificial Intelligence and Internet of Things (IoT), and (semi-) autonomous industrial techniques to understand the new technologies and innovation. The McKinsey Global Institute framed the 4IR as the age of "cyber-physical systems" [22]. One of the consequences of the 4IR is the blurring of technology into daily lives is becoming the norm. However, the impact that the 4IR will have or the direction it will take is not known yet. The IR 4.0 has given new stimulus for educational changes and transformations [23]. Lately, experts in the educational field recognized the significant impact of modern technological innovations in Information computer technology on the educational process. The technology-based language learning process in the era of 4IR will be formed by innovations.

B. Education 4.0

Education 4.0 refers to technology-based learning. It is supposed to affect all the domains namely cognitive, affective, and psychomotor). The new normal of education will require students with adequate data and digital literacy. Students in all fields will, therefore, need to obtain those digital and data literacies during their study. Big data, mobile computing, social network and cloud as innovations, created a chance to construct a learning environment that allows self-learning which is independent of place and time [24]. The new norm of learning and teaching will enable students to design their pathway depending on their personal educational goals. Meeting the high demands for ubiquitous technology-based language learning will impose using important tools like MOOCs, remote labs, game-based learning, virtual classrooms and virtual labs [25], [26]. With the high level of complexity, there is a vital need to impart deeper learning and this can be done by the increased use of practice-oriented learning and the use of blended project and scenario-based learning.

The literature reported that self-efficacy has a positive impact if the digital platforms are employed as part of educational tools beyond conventional classes or as a virtual approach to complement e-learning [27], particularly in techniques of acquiring the English language; In general, the usage of digital platforms facilitates learning cooperation amongst foreign language students in innovative and productive approaches [28]. The need to improve Self-Efficacy learners by utilising digital platforms for studying English to create an effective learning atmosphere in higher education [29], and to establish a base for student inspiration, well-being and professional achievement [13].

IV. RESEARCH METHODOLOGY

A sampling frame for this study is constructed from the 5 International schools in Malaysia. The random sampling technique was used to generate the sample. A total of 80 high school students constituted the sample of the study. The survey was administered online using Google Forms. The questionnaire contained five sections: demographic information, students' attitudes, skills, usage for learning purposes, and language skills improved. The questionnaire integrated the five-point Likert scale. A five-point Likert scale was used in the instrument of this study because the finer 5-point scale enables participants to sort out items in a manner closer to the structural pattern of the scale, resulting in higher reliability and validity [30]. A pilot study was conducted to test the reliability and internal consistency of the instrument using a Cronbach's Alpha test. The results showed the variables had a reliability of 0.9. Furthermore, items were assessed regarding their normality of distribution to ensure the psychometric properties of the questionnaire. The questionnaire was also validated by a professor and two assistant professors at a public university. The data was analysed descriptively and inferentially using SPSS 23.0. The range for data analyses for attitudes and skills is determined by the criteria of (Hanson *et al.*, 2005) According to these researchers, the mean scores of agreements range from 1.00 to 2.33 are construed as low, 2.34 to 3.67 as moderate and 3.68 to 5.00 as high.

V. FINDINGS AND DISCUSSION

The findings of the demographic information showed that 62.5% of the respondents are male and 38.5 % are female. 52% of the students are 16-17 years old and 30% of them are 14-15years old. Majority of the students 95% own handphones. 80% of the students own 4G phones. All of the students have internet access which indicates that students can easily access their learning material anytime anywhere. 75% of the students prefer technology-based teaching. This indicates that students are aware of the effective role of this technology-based teaching style. The students spend a long time on screen, as data showed 47% spend 21-30 hours per week and 40% spend 11-20 hours per week on the internet.

To test the goodness of data, descriptive statistics including means, standard deviations, Alpha ranges, skewness, and kurtosis for measurement variables in the research model were analysed. As Table I illustrates, values for Cronbach's alpha varied from 0.7 to 0.9 signifying that participants' responses to the items underneath each of the subscales enjoyed a relatively high internal consistency. Moreover, Kolmogorov-Smirnova and Shapiro-Wilk values suggest that the mentioned variables had a sufficiently normal distribution. The results of the descriptive analysis are provided in Table I.

TABLE I: GOODNESS OF DATA

Variable	Min	Max	Alpha	Kolmogorov-Smirnova	Shapiro-Wilk
Attitude	2.63	5.00	0.91	0.18	0.00
Digital literacy skills	3.00	4.57	0.83	0.19	0.00
Uses for learning purposes	2.80	5.00	0.90	0.20	0.00
Language skills improved	2.00	5.00	0.90	0.18	0.00

The findings showed that students highly Facebook, YouTube, WhatsApp and FB messenger with percentages of (4.60, 4.50, 4.45, 4.20) respectively. The extensive use is attributed to the familiarity of using these platforms for personal purposes and easy access via the internet. The students who accessed the internet daily were (75%) and (33.8%) of the respondents check the internet five times a day. Students used the internet for a long time daily. 40% use the internet for 3-4 hours per day. The high exposure to digital technologies positively affected their attitudes towards using the digital platforms for learning purposes.

A. Findings of Research Question One "Attitude"

The students' attitudes were noticeable since the high positive general weighted mean was 3.96, as shown in Table II. This implies that students recognise the effectiveness of online digital platforms to access online materials and resources, and communicate easily with other people. The results show that students feel comfortable using digital platforms as a learning tool (M= 4.08), students are excited to use digital platforms in learning the English language (M=4.05), they liked learning the English language using the digital platform (M=3.97), digital platforms change their learning styles (M= 3.95), digital platforms are an excellent technique to learn English (M= 3.95), digital platforms are valuable tools for their learning process (M= 3.85).

TABLE II: STUDENTS' ATTITUDES TOWARDS DIGITAL PLATFORMS

Item	M	SD	
The digital platforms are valuable tools in learning English	3.85	0.70	High
I feel comfortable using digital platforms in learning English	4.08	0.69	High
The digital platforms change the way I learn English	3.95	0.81	High
I like learning the English language using digital platforms	3.97	0.73	High
Digital platforms are an excellent technique to learn English	3.95	0.74	High
Using digital platforms in learning English excites me	4.05	0.74	High
I can do what the digital platforms can do equally well	3.93	0.79	High
Total	3.96		

B. Findings of Research Question Two "Digital Literacy Skills"

The results show that students can learn how to use technology easily (M=4.20). Also, the students recognize and manage digital resources such as create folders, links, and favourites (M=3.63). Moreover, the students have the knowledge of types of digital platforms that enhance their learning and how they learn (M=4.25). The students can use, access, and locate the informationi need to use (M=3.50), and using digital platforms effectively (M=4.08), The students stated that they can help their friends using digital platforms (M=4.08). However, the students lack the skills in solving technical problems (M=2.48). Therefore, despite the fact that students have a high level of attitudes, the total moderate mean score indicates that students need to be trained on using digital platforms. The data are presented in Table III.

C. Findings of Research Question Three "Using of digital platforms for learning purposes"

Table IV reveal that students highly agree on using digital platforms to search for information to do their assignments (M=4.30), attend English classes online (M=4.30), discuss homework with friends (M=4.23), share learning materials with classmates (M=4.18). Doing follow up studies after school (m=4.23). Practice English with friends (m=4.23), and watch educational programs (M=4.17). The findings showed students have a high extent of activities in using the internet for learning purposes which imply that have recognized the efficiency of exploiting the internet for learning and educating purposes.

TABLE III: STUDENTS' DIGITAL LITERACY

Items	M	SD	Criteria
I have the skills to use digital platforms effectively	4.08	0.79	Moderate
I can learn how to use digital platforms easily	4.20	0.85	High
I can use, access, and locate the information I need to use	3.50	0.67	High
I can select digital platforms that enhance what I learn, how I learn	4.25	0.67	High
I can help my friends to use digital platforms in learning	4.08	0.85	Moderate
I can recognize and manage digital resources such as create folders, links, and favourites	3.63	0.74	High
I can solve my technical problem when using technology	2.48	0.90	Low
Total	3.84		Moderate

TABLE IV: USING DIGITAL PLATFORMS FOR LEARNING PURPOSES

Item	M	SD	Extent
I use digital platforms to search for information to do my assignments	4.30	0.791	High
I use the digital platforms to do follow up study after classes	4.23	1.00	High
I use the digital platforms to watch educational online programs/ classes	4.17	0.93	High
I use digital platforms to share learning materials with classmates	4.18	0.90	High
I use the digital platforms to text my friends to practice English	4.23	0.80	Low
I use the digital platforms to attend English classes	4.30	0.79	High
I use the digital platforms to discuss homework with my peers	4.23	1.00	High
Total	4.23		High

D. Findings of Research Question Four “Language Skills Improved Using Digital Platforms”

The results of English proficiency that the students believe to benefit the most from their use of digital platforms presented in Table V. It shows that students believe that digital platforms develop vocabulary competence (M=4.20). The platforms also help the students improve their communication (M=4.37). In terms of the four language skills, the digital platform enhances the students writing (M=4.43), speaking (M=4.23), grammar competence (M=4.43), and reading skills (m=4.37). The high mean score (M=4.31) indicates the students recognise the effective role of digital platforms in enhancing language skills.

TABLE V: LANGUAGE SKILLS IMPROVED USING DIGITAL PLATFORMS

Items	M	SD	Criteria
Digital platforms help to develop my grammar competence	4.43	0.98	High
Digital platforms help to develop my listening skills	4.20	1.24	High

Digital platforms help to develop my speaking skills	4.23	1.16	High
Digital platforms help to develop my communication skills	4.37	1.05	High
Digital platforms help to develop my reading skills	4.37	1.05	High
Digital platforms help to develop my writing skills	4.43	0.98	High
Digital platforms help to develop my vocabularies	4.20	1.24	High

E. Findings of Research Question Five “Hypotheses Testing”

To measure the relationship between the variables, a series of Pearson Correlations was conducted. The results revealed a strong significant negative relationship between students’ attitudes and technology used for learning purposes ($r = -0.130, p > 0.05$). Moreover, a strong negative significant relationship between students’ digital literacies and technology used for learning purposes ($r = -0.111, p > 0.05$). It means that attitudes are not the main motivator to make students willing to use digital platforms for learning purposes. However, a strong positive but non-significant relationship was captured between the two variables attitudes and digital literacies ($r = 0.105, p > 0.05$). The results marked that students’ digital literacy and attitude as not predictors for technology used for learning purposes. However, there was no significant relationship between attitudes and digital literacy skills ($r = 0.07, p > 0.05$) indicating that the moderate level of digital literacy skills affects the high level of attitudes towards using technology for learning purposes.

The findings revealed that the students had experience in using digital platforms, and they were most experienced in using Facebook, WhatsApp, and YouTube. The students have positive expectations, perceptions, and attitudes towards using digital platforms in learning English.

The results highlight the availability of digital platform features such as connecting to native speakers to practise language skills in an authentic setting. The students appreciated opportunities to practise the language offered by the digital platforms. These results present the students as receptive to digital platforms as language learning tools [31].

Most of the students strongly expressed their desire and confidence to use digital platforms in their language learning. They also strongly agreed that digital platforms help them learn EFL and its culture, as well as make language learning more fun. Therefore, digital platforms should be wisely and effectively utilized inside & outside the classroom.

A vast range of other digital platforms research and language learning studies have examined how digital platforms can be used in an English curriculum in order to promote language skills [32]. This indicates that digital platforms are beneficial in improving language skills. The results are in line with the literature as students use digital platforms to develop language skills, especially concerning the skills of writing, conversation, vocabulary, and reading. The students recognised that digital platforms aid, assist, and strengthen their English language learning. Likewise, the findings support [33] as they found that Arab EFL students acquire new terms and vocabulary using telegram for English language learning.

Besides, people with positive attitudes have been seen to be more effective in using digital platforms. A potential reason for this is that a positive technical mindset allows students to be more inclined and happier with more distinguished ICT usage. Student reactions also led to the educational use of digital platforms [28]. Using digital platforms allows students to decrease the classroom and social contact obstacles, which will contribute to more learning experiences and improved engagement in face-to-face classrooms. This finding is in agreement with [34], who investigated students' attitudes to use technology by using high school students' participation to build a supportive culture of learning and a safe atmosphere for improving self-efficacy and learning English via while monitoring their accounts. Several studies acknowledged that digital platforms promote better feelings and enhance students' educational and social lives. Using digital platforms remains restricted for particular purposes in classrooms, such as debating class subjects with students, exchanging instructional opportunities, and responding to inquiries. The combination of e-learning and conventional classes in controlled educational systems remains insufficient.

The findings appear to confirm the idea that digital platforms are better utilized than conventional teaching and learning tools as a method for development [35]. Students should be equipped with the knowledge on how to use digital platforms to facilitate their learning process. Also, language instructors are advised to be aware of digital platforms' support and identify opportunities to optimize their advantages. They should be equipped with literacies to face the concerns of phishing and spam attacks. Despite the popularity of digital platforms, it is recommended to leverage digital platforms for pedagogical needs. Also, teachers ought to be aware of the fact that using digital platforms in supplementing conventional teaching methods is time-intensive. The effectiveness of using digital platforms depends on a strategic plan to maintain and manage using digital platforms. It has to be admitted that adding the use of digital platforms does not guarantee a full successful learning process at they still have limitations. Structuring a mechanism for information-sharing and interaction is crucial to avoid impediments and get the most benefits of learning digital platforms.

Based on the above discussion, it can be concluded that learning digital platforms hold a promise and high potential for developing language competencies as a supplementary tool in formal and informal learning contexts. Accompanied by careful consideration of learner characteristics learning digital platforms should be integrated with prudence in language classrooms.

VI. CONCLUSION, LIMITATION AND FUTURE STUDIES

This study investigated EFL students' use of digital platforms for language learning, digital literacy skills, attitudes, and improvement in language skills using digital platforms. The results showed that students have a high level of digital literacy skills, a high level of usage of digital platforms for learning, and a high level of attitudes. The findings showed that digital platforms enhance all language

skills. A non-significant relationship between using digital platforms for learning reasons, digital literacy skills and attitudes. Thus, attitude and digital literacy skills do not predict the use of digital platforms for learning purposes. Therefore, a drastic change is needed in the English classroom starting from changing the curriculum and employing a proper module to integrate digital technologies to enhance students' pedagogy. Along with the rapid change of new technologies, policymakers should take the advantage of emerging technologies in learning by monitoring the use of the industrial Internet for English language teaching and learning. This could be achieved by providing training programs and workshops. New digital literacy skills of teachers should gain attention from stakeholders so teachers face the demands of modern teaching methods. Besides, the teachers should recognize the new role of an English teacher as a facilitator by updating them with the latest information about the technology-enhanced classroom and technology-enhanced environment. The study recommends further research should be conducted on the importance of teachers' professional development. However, it has to be admitted that this is a small-scale study carried out only on a small group of students. Thus, hence the findings cannot be generalised. Hence, future research might explore the relationship between using digital platforms and academic achievements and assist learners with efficient use of digital platforms in their educational endeavours. Besides, e-learning may be used as part of educational means from within and outside the English language curriculum. It could also have a major impact on the academic basis on the self-efficacy of students in potential work. Finally, implementing digital platforms in a controlled educational setting lead to recognising other benefit facets of utilising platform technology especially in the new norm era of the Covid19 pandemic.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Conceptualization, H. M Alakrash and N. A. Razak; methodology and software analyses: H. M Alakrash; writing original draft preparation: H. M Alakrash; writing review and editing, N. A. Razak and P. Krish; Supervision: N. A. Razak and P. Krish.

ACKNOWLEDGMENT

This research received funding from the Ministry of Higher Education, Malaysia, under the project "Modelling of B40 Women Entrepreneurs for Economic Wellbeing in the Digital Economy System". The fund number LRGs/1/2020/UKM-UKM/01/5/2.

REFERENCES

- [1] A. O. Sulaimani, P. S. A. Sarhandi, and M. H. Buledi, "Impact of CALL in-house professional development training on teachers' pedagogy: An evaluative study," *Cogent Educ.*, vol. 4, no. 1, p. 1355646, 2017.
- [2] S. Günüç and N. Babacan, "Technology integration in English language teaching and learning," in *Position English Specific Purpose*

- in an English Language Teaching Context, N. Stojković, Ed., Malage, Spain: Vernon Press, 2018.
- [3] M. F. Ansary, "Designing and evaluating a professional development programme for basic technology integration in English as a foreign language (EFL) classrooms," *Australas. J. Educ. Technol.*, vol. 31, no. 6, 2015.
- [4] J. Tondeur, J. Braak, P. A. Ertmer, and A. Ottenbreit-Leftwich, "Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence," *Educ. Technol. Res. Dev.*, vol. 65, no. 3, pp. 555-575, 2017.
- [5] A. Y. Alqahtani and A. A. Rajkhan, "E-learning critical success factors during the covid-19 pandemic: A comprehensive analysis of e-learning managerial perspectives," *Educ. Sci.*, vol. 10, no. 9, p. 216, 2020.
- [6] E. H. K. Wu, C. H. Lin, Y. Y. Ou, C. Z. Liu, W. K. Wang, and C. Y. Chao, "Advantages and constraints of a hybrid model K-12 e-learning assistant chatbot," *IEEE Access*, vol. 8, pp. 77788-77801, 2020.
- [7] P. Thapa, S. L. Bhandari, and S. Pathak, "Nursing students' attitude on the practice of e-learning: A cross-sectional survey amid COVID-19 in Nepal," *PLoS One*, vol. 16, no. 6, p. e0253651, 2021.
- [8] H. M. Alakrash and N. Abdul Razak, "Technology-based language learning: investigation of digital technology and digital literacy," *Sustainability*, vol. 13, no. 21, p. 12304, 2021.
- [9] C. Sriwichai, "Students' readiness and problems in learning English through blended learning environment," *Asian J. Educ. Train.*, vol. 6, no. 1, pp. 23-34, 2020.
- [10] L. D. Prasajo, A. Habibi, and A. Mukminin, "Managing digital learning environments: Student teachers' perception on the social networking services Use in writing courses in teacher education," *Turkish Online J. Educ. Technol.*, vol. 16, no. 4, pp. 42-55, 2017.
- [11] A. Oke and F. A. P. Fernandes, "Innovations in teaching and learning: Exploring the perceptions of the education sector on the 4th industrial revolution (4IR)," *J. Open Innov. Technol. Mark. Complex.*, vol. 6, no. 2, p. 31, 2020.
- [12] S. Abraham, B. A. Mir, H. Suhara, and M. Sato, "Exploring academic use of online social networking sites (SNS) for language learning: Japanese students' perceptions and attitudes towards facebook," *J. Inf. Tech. Softw. Eng.*, vol. 8, no. 223, p. 2, 2018.
- [13] E. S. Won and J. R. Kim, "The effectiveness of self-directed english learning through SNS: Adopting facebook based on gamification," *Int. J. Mob. Blended Learn.*, vol. 10, no. 3, pp. 1-10, 2018.
- [14] R. Fithriani, U. Dewi, S. H. Daulay, M. Salmiah, and W. Fransiska, "Using facebook in EFL writing class: Its effectiveness from students' perspective," *KnE Soc. Sci.*, pp. 634-645, 2019.
- [15] I. Xodabande, "The effectiveness of social media network telegram in teaching English language pronunciation to Iranian EFL learners," *Cogent. Educ.*, vol. 4, no. 1, p. 1347081, 2017.
- [16] B. Akhmedov and K. Shuhkrat, "Cluster methods of learning English using information technology," *Sci. Prog.*, vol. 1, no. 2, 2020.
- [17] L. Rababah, "ICT obstacles and challenges faced by English language learners during the coronavirus outbreak in Jordan," *Int. J. Linguist.*, vol. 12, no. 3, pp. 28-36, 2020.
- [18] M. Rahimi and S. Yadollahi, "Foreign language learning attitude as a predictor of attitudes towards computer-assisted language learning," *Procedia Comput. Sci.*, vol. 3, pp. 167-174, 2011.
- [19] L. A. Amaral and D. Meurers, "On using intelligent computer-assisted language learning in real-life foreign language teaching and learning," *ReCALL*, vol. 23, no. 1, pp. 4-24, 2011.
- [20] J. M. Marbán, E. Radwan, A. Radwan, and W. Radwan, "Primary and secondary students' usage of digital platforms for mathematics learning during the COVID-19 outbreak: The case of the Gaza strip," *Mathematics*, vol. 9, no. 2, p. 110, 2021.
- [21] S. Tiakiwai and H. Tiakiwai, *A Literature Review Focused on Virtual Learning Environments (VLEs) and E-Learning in the Context of Te Reo Maori and Kaupapa Māori Education: Report to the Ministry of Education*, Ministry of Education, 2010.
- [22] K. Schwab, *The Fourth Industrial Revolution*, Currency, 2017.
- [23] J. Butler-Adam, "The fourth industrial revolution and education," *S. Afr. J. Sci.*, vol. 114, no. 5-6, p. 1, 2018.
- [24] H. M. Alakrash and N. A. Razak, "Technology-based language learning: investigation of digital technology and digital literacy," *Sustainability*, vol. 13, no. 21, 2021.
- [25] A. Hariharasudan and S. Kot, "A scoping review on digital english and education 4.0 for industry 4.0," *Soc. Sci.*, vol. 7, no. 11, p. 227, 2018.
- [26] H. M. Alakrash and N. A. Razak, "Education and the fourth industrial revolution: Lessons from COVID-19," *Comput. Mater. Contin.*, pp. 951-962, 2021.
- [27] B. Y. Cahyono and I. Mutiaraningrum, "Indonesian EFL teachers' familiarity with and opinion on the internet-based teaching of writing," *English Lang. Teach.*, vol. 9, no. 1, pp. 199-208, 2016.
- [28] M. K. Kabilan, N. Ahmad, and M. J. Z. Abidin, "Facebook: An online environment for learning of English in institutions of higher education?" *Internet High. Educ.*, vol. 13, no. 4, pp. 179-187, 2010.
- [29] Ö. Kirmizi, "The influence of learner readiness on student satisfaction and academic achievement in an online program at higher education," *Turkish Online J. Educ. Technol.*, vol. 14, no. 1, pp. 133-142, 2015.
- [30] L. Chang, "A psychometric evaluation of 4-point and 6-point likert-type scales in relation to reliability and validity," *Appl. Psychol. Meas.*, vol. 18, no. 3, pp. 205-215, 1994.
- [31] D. Forlano, "Social networking for language learning," *Lang. Educ.*, vol. 4, no. 1, pp. 43-45, 2009.
- [32] C. Gamble and M. Wilkins, "Student attitudes and perceptions of using facebook for language learning," *Dimension*, vol. 49, p. 72, 2014.
- [33] M. Khojah and M. Thomas, "Smartphone-mediated EFL reading tasks: A study of female learners' motivation and behaviour in three Saudi Arabian classrooms," *AsianEFL J.*, vol. 25, no. 2, 2021.
- [34] R. Alebaikan and S. Troudi, "Blended learning in Saudi universities: Challenges and perspectives," *ALT-J*, vol. 18, no. 1, pp. 49-59, 2010.
- [35] R. Vivian, A. Barnes, R. Geer, and D. Wood, "The academic journey of university students on Facebook: An analysis of informal academic-related activity over a semester," *Research in Learning Technology*, vol. 22, article 24681, 2014.

Copyright © 2022 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).



Hussien Alakrash is a PhD holder from Universiti Kebangsaan Malaysia in English language studies. He also holds a masters degree in English language studies, and bachelor degree in English language and literature from University of Aleppo. His area of expertise is technology-based language learning, digital literacy, and Fourth industrial revolution.



e-inclusion.

Norizan Abdul Razak is a professor in digital literacy and e-learning at the Centre of Research in Language and Linguistics, University Kebangsaan Malaysia. She received her PhD in education from University Kebangsaan Malaysia, the masters's degree in TESOL from University of Northern Iowa, USA, and the bachelor degree in English language studies from Western Illinois University, USA. Her area of expertise is e-learning, digital divide, and



interests include technology-based language learning and the impact of new media in society.

Pramela Krish is an associate professor at Universiti Kebangsaan Malaysia at the Centre of Research in language and linguistics. She obtained her PhD in English language studies from Universiti Putra Malaysia and her masters in education from University Malaya. She has researched and published works on online learning and teacher professional development in several impact journals. Her research