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| RESEARCH ARTICLE

Fostering the Learning of the English Language in KSA ESL High Schools through Digital Technologies: A Systematic Review

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| ABSTRACT
The present study investigates the efficiency of digital technologies for language learning among high school students, approaches that have been empirically proven to be effective, barriers to its use (learner factors, teacher factors, government/ministry factors), and implications for English curriculum development in the KSA. The methodology is a systematic literature review of at least 24 studies conducted between 2018 and 2021 to ensure that they are current and that the study does not replicate what others have done. The review reveals that digital technologies for English language learning have been extensively used in countries where English is not the native language, but barriers categorised as cultural, institutional, learner, and teacher factors impede their use. The study's limitations are the lack of current literature on digital technology for language learning in the KSA context. However, the empirical evidence in the studies and the author's background as an educator in the KSA help to delimit this aspect considerably as both types of knowledge foster an understanding of the results' application in the local context. Further, the findings are critical for future research in the region since they lay a framework for more rigorous methodologies to investigate the key gaps for the incorporation of digital technologies in the English curriculum.

| KEYWORDS

Digital technologies, English as a second language (ESL) language learning, technological innovations for ESL learners, English language learning for Saudi Arabia students, digital innovations for ESL language classrooms, technological applications for English language learners.

| ARTICLE INFORMATION

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1. Introduction

The advent of technology has opened avenues for its application in various sectors of society, with immense changes in the areas in which it is used. One of the sectors that has seen an increase in the application of digital technologies is education, which has radically changed the way learning takes place. As with other countries, the Kingdom of Saudi Arabia (KSA) has adopted technological innovations in the delivery of learning instruction as well as in the learners' mode of study. Although the use of digital technologies has immense potential to change the existing English language instructional methods, the benefits of using digital technologies do not come automatically owing to the numerous barriers that must be overcome for their successful integration into instructional design and the curriculum (Alharbi & Alotebi, 2019). Alswilem (2019) explained that there are already barriers that limit English learning for KSA students, and these, combined with those posed by digital technologies, negatively impact the learning process. The present study seeks to investigate the current state of literature on the efficacy of digital technologies in teaching English as a second language (ESL) to high school students, the strategies for incorporation, and the barriers that inhibit the process. The results have critical implications not only for future research but also for the creation of an efficient model that can be incorporated into the English curriculum to foster the language learning process for students in the KSA.

1.1 Research Aim and Objectives

The overall aim of the present study was to investigate the efficacy of digital technologies for KSA high school students in the English learning process, the strategies for implementation, and the barriers that would impede their incorporation into the English curriculum.

1.1.1 Objectives

I. To investigate the efficacy of digital technologies in learning English as a second language among high school students.

II. To explore the barriers impeding the utilisation and efficiency of digital technologies as pedagogical tools for English language learning among KSA high school students.

III. To examine the strategies used in teaching English as a second language using digital technologies.

IV. To derive suggestions from studies on how the Ministry of Education in the KSA can incorporate digital technologies into the English curriculum.

1.1.2 Research Questions

I. Are digital technologies effective in the teaching of English as a second language among high school students?

II. What are the barriers impeding the utilisation and efficiency of digital technologies as pedagogical tools for English language learning among high school students in the Kingdom of Saudi Arabia?

III. Which strategies are used in the teaching of English as a second language using digital technologies?

IV. How can the Ministry of Education in the Kingdom of Saudi Arabia incorporate digital technologies into the English curriculum to foster the teaching and learning process?

2. Systematic Literature Review

Technology has been applied in ESL classrooms for the learning of various subjects, ranging from sciences to languages, with considerable success. However, there is no consensus on which aspects have been the most successful, creating discord in the factors considered most important for its application, particularly in English language learning (Bošković Marković, 2019). The present review provides results from past studies on the efficacy of digital technologies in ESL classrooms with a special interest in the KSA. The findings from the studies are presented thematically, being broadly categorised into the themes of the efficacy of digital technologies, approaches that have been empirically proven to be effective, and barriers to the use of digital technologies (learner factors, teacher factors, government/ministry factors).

2.1 Efficacy of Digital Technologies for ESL Language Learning

Numerous studies support the efficacy of digital technologies for language learning, providing evidence of the positive impact of ICT on learning, particularly due to its effect on student motivation and engagement. An experimental study by Jawad, Majeed, and AlRikabi (2019) among 85 high school students in Baghdad showed significant differences in achievement between learners using technology and those using traditional methods of learning. The group using technology posted considerably higher scores than those without, findings attributed to higher motivation. Congruently, Lister (2022) concluded that technological innovations foster learner interest and motivation, particularly when students perceive the learning task as interesting and meaningful. In another study by Zhang and Hyland (2018), digital technologies were found to increase student engagement in the learning process, with engaged students found to have eliminated any distractions or alternatives that would otherwise have their attention. These findings are attributed to the fact that digital technologies meet both the auditory and visual senses of learners, making the process more interesting.

High student engagement has a bidirectional relationship with cooperative learning, another element that is supported by digital technologies, and which has been found to be an efficient strategy for English language learning among ESL students. Yeh and Mitric (2019) concluded that technology enables learners to work with their peers to create tasks and learn from each other, which is one of the most effective strategies for language learning. Sharing feedback between peers is easier than that between instructors and students, owing to the distance created by the power differences. During the process, students can adjust their own learning processes while accessing a considerable amount of information beyond what their teachers provide in class. Loewen et al. (2019) added that availability and access to the internet provides students with opportunities to explore material beyond what is presented in class. Similarly, Jabir (2021) established that digital technologies increase students' access to the target language and interaction opportunities, as they provide connectivity with a large number of people, regardless of their geographical locations. As a result, learners become part of virtual global societies, which expand their opportunities for learning and collaborating with others.

Aside from the wide array of information, students also access more interesting facts that are suited to their learning needs and preferences. The needs and preferences are different for learners with disabilities, and digital technologies increase access to this category. Findings from Alkhawaldeh and Khasawneh's (2021) study showed that new technologies, such as tablets and smart phones, can be programmed in such a way that students with communication disorders and vision impairments can use them in learning. Even instructors can learn new methods of teaching that can help learners with disabilities. Jabir (2021) noted that technological innovations provide instructors with avenues to organise course content and engage with learners, thereby easing their delivery in the classroom. These findings are congruent with those of La Hanisi, Risdiany, Dwi Utami, and Sulisworo (2018), who concluded that mobile technologies have the capability to support, expand, and enhance course content while broadening the range of available learning activities. Further, they are supported by results from a quantitative analysis performed by Ajisoko (2020), which showed that thousands of applications are available for English language learning, particularly vocabulary learning, which can be downloaded from various platforms, such as Apple's app store. Thus, digital technologies fundamentally change the paradigm of education by providing assistive technology that is blended into instructional design.

However, critics of technology for language learning argue that its employment in the classroom distracts students and impedes the process of learning. Ahmadi and Reza (2018) found that technology is more effective in enhancing student motivation than in enhancing language skill acquisition. Such findings are based on the fact that the majority of the existing studies focus on other areas of learning, particularly the affective reactions of learners as opposed to specific areas of language acquisition. Although these assertions are supported by findings from scholars such as Shadiev Yang (2020), who evaluated the state of the current literature on technology and found that the studies are inconclusive, there is sufficient evidence that motivation plays a central role in learning. Particularly in the context of English learning for KSA students who may not have a positive attitude towards the culture from which it originates, motivation plays a key role in the language acquisition process and, hence, learning. However, this argument for the distraction caused by technology could be strengthened by the fact that digital platforms offer a wide array of content that would take the student's attention from the language learning objective.

Moreover, when students are not proficient in the use of the applied technologies, they may feel inadequate, lowering their self-esteem, which would in turn affect their ability to learn as they develop a negative attitude towards learning. Zhang and Hyland (2018) posited that students cannot attain their learning objectives when they have negative emotions, such as boredom, distance from the process, and lack of self-efficacy. These findings are supported by the observation that such emotions leave students disengaged in their learning.

2.2 Approaches to the Incorporation of Digital Technologies

2.2.1 Digital Storytelling

Digital storytelling is considered one of the most effective ways of teaching the key English language features required for proficiency. Some of the channels used in digital storytelling include podcasts, social networks, video conferences, blogs, virtual tours, and apps, as well as films and TV programmes. In a study among young ESL learners in Malaysia, Leong, Abidin, and Saibon (2019) found that when teachers used digital storytelling through tablets, there was an increase in learner satisfaction and positive attitudes towards the process. Such findings can be explained by the fact that young learners perceive digital storytelling as more interesting than traditional forms of learning, which they consider monotonous. Congruent with these outcomes, Amelia and Abidin (2018) noted that young primary students in Malaysia perceived digital storytelling as having a positive impact on their English language skills of listening, speaking, writing, and reading. Oftentimes, the teaching of vocabulary is perceived as boring and dull by students, impeding their motivation to learn. Leong et al. (2019) observed that without an understanding of English vocabulary, learners cannot infer meaning from texts, inhibiting language proficiency efforts. Hence, the efficacy of these strategies has critical implications for English curriculum developers.

Digital storytelling fosters language learning not only in the classrooms but also in other contexts, such as the social environment. Yeh and Mitric (2019) presented a model demonstrating how art students' Instagram could integrate popular social media practices in specific fields that were relevant to their future careers into the English as a second language curriculum. In the study, the authors examined strategies for using Instagram as a multimodal digital storytelling tool to foster students' motivation for learning and engagement in language learning, improve their speaking and written proficiencies, and amplify their voices at the global level. Congruently, Har, Mohamad, and Jamal (2019) observed that in contemporary society, students construct meaning from content as well as their social environment and seek avenues for self-expression through various means, such as written, visual, and aural, among others. The digital era has increased access to platforms that foster this expression, according to the student's preferences and context.

Further, digital storytelling lowers any anxiety that students may have about self-expression, improving their participation and engagement even beyond the limited confines of their classrooms (Ruiz-Perez, 2022). Aside from engagement, Yeh and Mitric (2019) found that digital storytelling supports learner autonomy, helping them establish their identities and interact with others in and out of their classrooms. This ability to take charge enhances student confidence while promoting cooperative learning through

improved collaboration. Similarly, a quantitative survey of 187 Chinese secondary students showed their positive attitudes towards the use of TikTok as a video aid in EFL classrooms and outside of their classrooms for language learning (Yang, 2020). During the process, students provide and receive feedback from their peers, with whom they may be more open to exchanging ideas. As a result, students develop their writing and speaking skills, which foster their ability to interact appropriately in social settings and further improve their competences in these areas.

2.2.2 Gamification

The use of games can make learning more interesting for students in ESL classrooms. A study by Putz, Hofbauer, an Treiblmaier (2020) established that gamification can be utilised in ESL classrooms for language learning. Hashim, Rafiq, and Md Yunus (2019) investigated the efficacy of using online language games among high school students using observations from Kahoot!, Socrative, and the PowerPoint Challenge Game. The results showed a significant improvement in the English grammar results posted at the end of the quasi-experiment. Retherford (2020) examined the impact of gamification in an ESL classroom of Spanish speakers in elementary schools. The author concluded that learners who played the Osmo game had a higher vocabulary growth rate, motivation, and engagement than their counterparts using traditional methods. Lam, Hew, and Chiu (2018) examined whether the use of digital game mechanics increased students' online contributions and writing performance among high school students in a Hong Kong school. The authors observed a significant increase in the learners' postings on Edmodo when gamification was incorporated, showing a positive impact on argumentative writing attributed to gamification. The results showed that students prefer gamified strategies for English language learning (Lam et al., 2018). This finding is attributed to the fact that gaming is a shift from what would be considered monotonous classroom delivery, in which students are just passive receivers of content. Instead, gaming provides an avenue for learners to engage in fun activities while learning a second language.

2.3 Barriers to the Use of Digital Technologies

2.3.1 Cultural Barriers

The global nature of communication facilitated by digital technologies has key benefits and drawbacks that impact reception and acceptability of the tools across various geographical contexts. According to Alresheed, Raiker, and Carmichael (2017), technology has increased the sharing of content across various platforms, including the sending of materials considered offensive in Arab cultures. For instance, Alresheed et al. (2017) noted that social media platforms, such as Instagram and Facebook, allow users to post images that are almost nude, which contradicts the cultural and religious beliefs of some groups. Consequently, the students and teachers in these regions may hesitate to use technology, since they associate it with a breach of their beliefs.

2.3.2 Learner Factors

For learning to be effective, students must have a positive attitude and perception of the process. However, some learners have been found to have negative attitudes towards both the English language and technology, creating considerable barriers to the learning process. According to Yeh and Mitric (2019), language anxiety and lack of confidence inhibit the learning process for students who develop a negative attitude towards the English language. As a result, students do not participate in the classrooms, yet the most effective learning environments are those where the content is student-centred, with the teacher acting only as a facilitator in the learning process.

2.3.3 Teacher Factors

The attitudes of teachers towards technology have been found to have an effect on their intention and ability to use it during the delivery of instruction (Abbasi, Ibrahim, & Ali, 2021). Closely related to this factor, a lack of skills affects teachers' attitudes and ability to use the different available technological innovations. Nikolopoulou (2020) concluded that instructors' computer literacy has a significant positive impact on its efficiency in the classroom. However, a positive attitude does not outrightly translate into capability and competence. Without adequate training, teachers cannot understand how to use the different technologies required for efficient use in language teaching. Bošković Markovic (2019) hypothesises that while learning in contemporary society requires the student to be an active participant and, in some instances, students learn independent of the teachers, they still believe that the latter's skills play a central role in their learning. These assertions are consistent with findings from a study by Putz et al. (2020), who concluded that a teacher should be able to transfer knowledge, lead students, and motivate them. In so doing, teachers help to develop a positive attitude towards the content from the students. However, such a situation is only possible when the teacher is competent in the use of digital technologies to facilitate the ease of adaptability to changes.

2.4 Institutional and Government Factors

Institutional factors are closely related to government factors since the latter influences the institutions where the digital technologies are to be applied. Governments, through their policy makers, influence the resources allocated to the training of teachers who need to be equipped with the requisite skills for engagement with the technologies they use in the delivery of the content required for language learning. These assertions are supported by findings from a study by Nikolopoulou, Gialamas, Lavidas, and Komis (2021), who found that inadequate training among teachers and insufficient time to use the technologies are some of the common barriers mentioned by teachers in their instructional delivery using technology. Similarly, Razak, Alakrash,

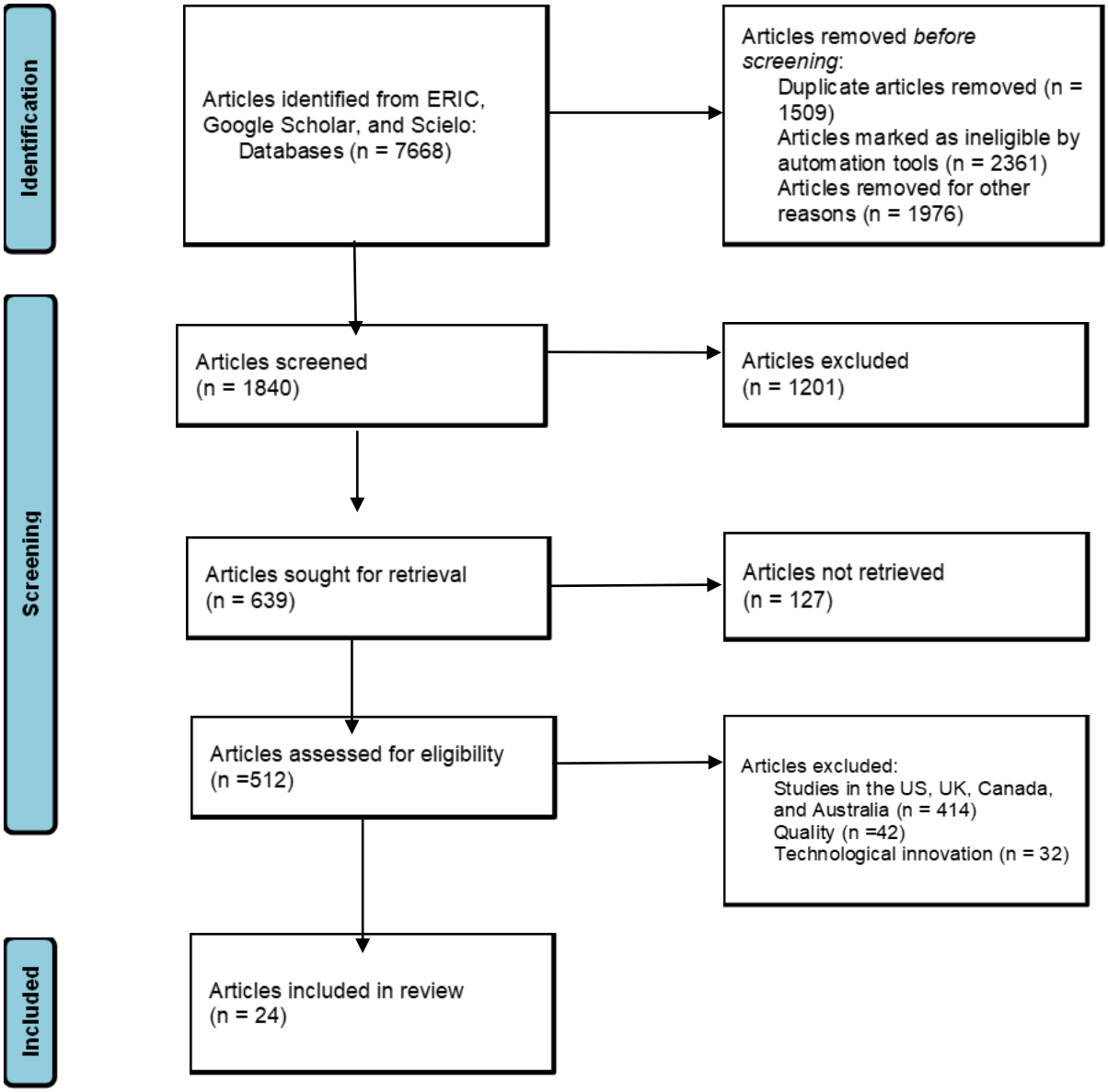
and Sahboun (2018) cited a lack of infrastructure as a key impediment to the adoption of technology in the ESL language learning process. Without collaboration between schools and the government, the benefits associated with the use of technology in the learning process cannot be attained.

3. Methodology

3.1 Search Strategy

This study used a systematic literature review as its methodological approach. The search strategy involved a wide and rigorous search of articles in three databases—Google Scholar, Scielo, and ERIC—which mainly collate educational research. The keywords used for the search were digital technologies for ESL language learning, technological innovations for ESL learners, English language learning for Saudi Arabia students, digital innovations for ESL language classrooms, and technological applications for English language learners. The first search yielded 7688 articles in total, which were screened for duplicates using an automatic tool, resulting in the removal of 1509 articles. The remainder were then subjected to the inclusion and exclusion criteria. The first inclusion criterion was that the articles had to be in English, resulting in the removal of 1201 articles. The second criterion was the date of publication, stipulated as the past 10 years or recent, further excluding 1887 articles. To ensure that the studies were more recent, the date of publication was further extended to 2018, reducing the number of potential articles to 512. The studies were further subjected to exclusion criteria, in which those published in regions where English is the native language were removed. Only 98 studies were identified, and when they were tested for quality using the Critical Appraisal Skills Programme (CASP) tool, 24 met the standards. Fig. 1 summarises this search process.

Fig. 1. PRISMA flow of the search process (Adapted from Page et al. 2021)



3.2 Quality Assessment

The articles were screened through the CASP checklist to ensure that only high-quality studies were included. During the process, the articles were examined to ensure that they had an identified research question and aims that were clearly outlined. The second step involved a rigorous review of the methods used and their appropriateness for the specific aims of the study. The sample size was justifiable and representative of the given population. Equally important, the data collection and analysis was rigorous, as the author examined potential biases during the process. Lastly, the findings were made explicit, with sufficient evidence for both sides of the argument (Buccheri & Sharifi, 2017). Where the results deviated from existing evidence, the author explained of the deviation with strong arguments before showing how they contributed to existing knowledge and understanding while pointing out new areas where further research was required (Buccheri & Sharifi, 2017).

4. Discussion of Findings

The findings of the study revealed considerable gaps in the research regarding the use of digital technologies for language learning in the KSA context. Several emergent observations from the thematic analysis of the studies have critical implications for the education sector in the KSA, and more specifically, the English language curriculum. The themes are further discussed below, with the findings related to other existing evidence to provide a more nuanced understanding of the issue.

4.1 Efficacy of Digital Technologies in Language Learning

Overall, the studies demonstrated that digital technology fosters the learning of a language as a second language for EFL students. Primarily, digital technologies increase the engagement and motivation of learners in English classrooms while providing avenues for students to continue learning even outside of the classroom (Lister, 2022; Retherford, 2020; Zhang & Hyland, 2018). Students can engage with digital technologies even when they are away from the school environment. At home or in the course of performing other tasks and duties, they still engage with the learning materials (Abbasi et al., 2021; Alresheed et al., 2017; Retherford, 2020). Ho (2020) explained that digital technologies are found on mobile devices, such as phones, personal computers, and tablets, which provide learners with a more flexible source of learning materials. Learners can use these items to perform activities, such as watching movies, where they learn the everyday use of language, thereby increasing their comprehension skills. Ali (2020) posited that these learning avenues are more interesting and interactive than traditional learning methods, in which they have to sit and listen to their teachers, who act as sources of knowledge. Instead, the learning process happens away from the classroom, reducing the formality with which it is approached (Anak Yunus & Hua, 2021). In this way, language learning becomes a continuous process and part of everyday activities, increasing the speed with which they learn and their engagement in the process. Further, as student engagement increases, so does their need to share with their peers, fostering cooperative learning among them (Zhang & Hyland, 2018). Cooperative learning is one of the models that has been found to be especially important during the learning of a foreign language, fostering the acquisition of critical English language skills.

Nevertheless, the findings reveal that there is no consensus on the efficacy of digital technologies in language learning. Scholars cannot agree on the specific impact of various barriers on the language learning process, leading some to conclude that the overall effect of digital technologies is negative (Bošković Marković, 2019). These findings demonstrate that there could be negative perceptions of technology even among researchers, further complicating the situation, as this group will strive to show their inefficacy, creating further impediments to its integration. Furthermore, authors such as Rong and Noor (2019), Leong et al. (2019), Retherford (2020), and La Hanisi, Risdiany, Dwi Utami, and Sulisworo (2018), who focused primarily on the positive attributes of technology alone, failed to consider the impact of the digital divide on the learning of a foreign language. Without an investigation into this element, the objectivity of the studies is compromised.

4.2 Strategies for Technology Application

4.2.1 Digital Storytelling

As students engage in storytelling, they create content, and improve their creativity, which plays a critical role in enhancing interaction between peers and their instructors. Further, digital storytelling supports the vocabulary learning process for learners because language learners are exposed to lexical items during the listening and reading of digital stories (Rong & Noor, 2019). During this process, teachers are able to play their role in scaffolding, where they take on the role of facilitators. Hava (2021) explained that in using digital storytelling, students feel that they have control over the learning process, which has immense benefits on their self-esteem, confidence, and autonomy. Moreover, Anderson, Chung, and Macleroy (2018) noted that digital storytelling makes students feel that their voices matter, which encourages them to create more content that they can share with their peers not only in the classrooms but externally with others all over the world. This process takes place even outside of the classroom, making language learning an ongoing process until students gain proficiency levels.

4.2.2 Gamification

Gamification makes content more engaging, increasing the level of interest that students have in the learning process (Putz et al., 2020). Ideally, games have different levels, from the beginner level to the advanced level, in which the most competent gamers are found. According to Retherford (2020), this nature of games creates interest for learners who seek to unlock higher levels as they are challenged by different hurdles at every level. Nnadozie and Ugochukwu (2021) explained that there are numerous games that especially focus on vocabulary building, such as online Scrabble, where learners compete with those at their levels in the construction of words. Additionally, Kessler (2018) holds that gaming provides an avenue through which learners can join communities of their peers through the internet. In this way, learners improve their communication and cultural competence skills. As they interact with those from other cultures, they become exposed to different ways of thinking, reducing their biases and stereotypes, which then lowers the cultural barriers that impede language learning.

4.3 Factors Influencing the Effectiveness of Digital Technologies

An emergent theme from the studies was the qualities that effective digital technologies must have. Specifically, both digital storytelling and gamification must meet certain thresholds to be effective as pedagogical tools. Rong and Noor (2019) conducted four time series tests in a pre-experimental study to investigate the elements of digital storytelling that could promote high school writing skills in Malaysia. The authors concluded that the pacing of the narrative, choice of content, quality of images, language use, and good grammar fostered the impact of digital storytelling on students' writing performance. Similarly, Hashim et al. (2019) argued that the effectiveness of gamification depends on whether students perceive the games as accessible, interesting, of good quality, or useful. Hence, curriculum developers must incorporate the user design element to ensure that it meets the needs and preferences of learners.

4.4 Barriers to Adoption of Technology in ESL Language Learning

4.4.1 Institutional and Government Barriers

All the identified barriers were primarily associated with a lack of support and investment in the required resources from the government and institutions. Educational institutions need to provide adequate support to teachers for them to be effective in the delivery of instruction. For instance, Alresheed et al. (2017) found limited facilities, insufficient time, and incompetence in computer applications to be the top factors affecting the integration of computers in KSA schools. Similarly, Polly, Martin, and Guilbaud (2021) observed that teachers do not have adequate time to balance managing their classrooms and using the available technology, which impedes learning. The situation is further complicated by the nature of technologies, which are constantly changing and require more than just basic knowledge of their functioning to be able to utilise them effectively in the English classroom (Falloon, 2020). This observation points to the issue of competency in the comfortable use of technology as a tool to facilitate learning. Razak et al. (2018) noted that with guaranteed self-efficacy, teachers will be able to manage their students while using technology. In fact, teachers can use technology to monitor and manage student activities, thereby facilitating learning (Tamah et al., 2020). This observation supports the need for adequate training to enhance teachers' competence and ability to use the available technology, which can only be possible where the government provides enabling factors. Although the government may provide funding for the incorporation of digital technologies into the education curriculum, a lack of understanding of the interaction of the different aspects that foster its full integration will result in the inefficient implementation of resources.

Further, the systems made available by institutions have to be high quality and adapted to the user needs of the students and teachers. The results from the study by Alresheed et al. (2017) showed that the flexibility and quality of a system impacted the behavioural intention of teachers to use it in their classrooms. Without adequate support from the government, institutions cannot provide the requisite technology for teachers. Lawrence and Tar (2018) indicated that the government influences the access that both learners and teachers have to technology by providing the required infrastructure. Similarly, Sehlaoui (2018) found that having the right technology alone is not sufficient to ensure its incorporation in language learning classrooms. Aguilar (2020) supported these findings by suggesting that students need to have access to aspects such as fast internet, electricity, and the time to familiarise themselves with its use. Shadiev and Yang (2020) explained that by neglecting these accessibility concerns, technology creates a digital divide that impedes equality in education access and quality, in which students who have access to the right infrastructure have an unfair competitive edge over their counterparts who have limited access. Thus, the application of digital technologies has become counterproductive to the language learning efforts of learners.

4.4.2 Cultural Barriers

All the studies identified cultural barriers as the most significant impediment to the use of digital technologies in the English language learning process for ESL students. According to Albiladi (2022), cultural barriers relate to the difference in cultures between native English speakers from where the language originates and those of ESL students, as well as the cultural barriers to technology adoption. Students in high school are from the early to the late adolescent age, where identity formation is a critical aspect (Sun & Gao, 2020; Yang, 2020). In this regard, they may perceive the culture from which the English language originates as negatively affecting their identity and sense of belonging. The situation is made worse by the clear differences between the two cultures, with the KSA culture being more conservative than Western cultures. According to Sahin (2018), the West is more permissive of certain aspects, such as dressing and sexuality, which are in direct contravention to the religious and cultural beliefs of Arabic cultures. This creates a negative perception of all that is considered Western, including the language. In light of the interactions that happen across technological platforms, such as social media, the cultural divide is widened, further worsening the negative students' perceptions of the language and digital technologies (Alresheed et al., 2017). Similarly, teachers who share a cultural background with their students are also likely to share their sentiments, particularly in the context of technology and what they have observed on online platforms (Nikolopoulou, 2020; Razak et al., 2018; Shadiev & Yang, 2020). As a result, their behavioural intention to use the technologies or even learn how to use them is negatively affected, with critical implications for the teaching process. However, these barriers do not relate to the learners and teachers alone; instead, they permeate every party involved in the learning process. Some of those in government, particularly policymakers, might have a negative attitude towards the technology and the language (Abbasi et al., 2021). Such occurrences impact decision-making and the priority given to technology incorporation in ESL classrooms.

4.3 Implications for English Curriculum Development in the KSA

The analysed studies demonstrate that digital technologies foster the learning of English as a second language. Within the KSA context, the Ministry of Education has been striving to incorporate these technologies into instructional design. However, the fact that it has not succeeded in attaining the desired levels of student achievement points to a need for stakeholders to address the impediments to the application of technology in language learning. There is no doubt that KSA students will have to acquire the necessary English language skills required for proficiency to remain relevant in a rapidly changing world where globalisation has necessitated the learning of a commonly spoken language. Although the government has made concerted efforts to remain

abreast of technological innovations, providing the technologies alone is not sufficient, and efforts must be made to incorporate the technologies in a way that will be effective for the target population.

Further, the findings are varied regarding the impact of digital technologies on language learning, which is attributed to the generic approach to their incorporation. According to Carhill-Poza and Chen (2020) and Yang (2020), the learner characteristics of students in high school differ from those of students in primary schools and universities/colleges. Hence, there is a need to evaluate the technologies that are relevant to the target learners. The technologies used in higher institutions of learning may not be efficient for students therein. Similarly, some of the technologies used by students in other non-native English countries, such as China, would not be effective due to differences in their cultures. For instance, the development stage of secondary school students influences their attitudes, perceptions, and ability to use different forms of technology (Carhill-Poza & Chen, 2020). Carhill-Poza and Chen (2020) explained that during this stage, interests shift from individual to group pursuits, while the students develop strong attitudes towards issues such as religious, ethnic, and racial groups. Further, adolescents seek autonomy as they prepare for adulthood. As such, the technological innovations to be incorporated should cater to these needs for increased acceptance and efficiency.

Toward this end, the findings on the efficacy of gamification and digital storytelling have crucial implications for the Ministry of Education. These two strategies would be especially effective for students in high schools, owing to their age-appropriateness. Results from Leong et al.'s (2019) and Retherford's (2020) studies showed that digital storytelling and gamification foster interactivity, creativity, and autonomy that support the learners' needs for independence and social inclusion and are significantly interesting owing to their innovativeness. Besides, the intensely competitive nature of the information technology industry makes it highly dynamic, with constant innovations being created rapidly to suit the changing needs of users. As such, there is a need for their incorporation into the KSA English curriculum for secondary school learners, since they align with their specific characteristics.

5. Conclusion

The findings from the study reveal that digital technologies are effective in language learning for ESL students, not only in the KSA but also in other regions where English is not the native language. With technology permeating every aspect of life, there is a need to integrate it into the curriculum so that it can be embedded in the teaching and learning process, particularly in language learning. The reviewed studies demonstrate that digital technologies have the power to enhance the learning process by increasing learner engagement with the content, fostering cooperative learning, providing continuity in the learning process, creating an avenue where knowledge can be shared with others in an increasingly globalised society, and giving learners the autonomy to decide how they learn. Digital technologies also provide instructors with more access to learning material, particularly through resources that are available on the internet, enriching their teaching methods and experiences. As such, digital technologies are a key aspect of language learning that needs to be incorporated into the English language curriculum.

However, there are barriers related to learners, teachers, and institutions that must be overcome for technology to be effective. In the KSA context, the barriers relate to the attitudes of learners towards English and the specific barriers related to technology incorporation in learning institutions. As such, integrating digital technologies in schools requires adequate planning and a wide berth of empirical evidence to harness the strengths of their application while overcoming two levels of barriers: barriers towards English language learning and barriers to technology incorporation. The present study lays the framework for a model that can be used to mitigate the negative impacts of technology while utilising its incorporation into the English language curriculum in a manner that will have positive effects. Hence, as more innovations are introduced into the digital technology realm, they will be integrated into the curriculum, further improving the learning process.

The study identified some of the strategies that can be used to incorporate technology into English language learning. The choice of gamification and digital storytelling is influenced by evidence showing their efficiency in digital classrooms. Other strategies can be derived from these two, based on the needs of the students and their specific characteristics. This would only be possible if the teachers were adequately competent in fostering innovation that would enable them to align the technologies with the needs of the learners in an environment where they had institutional support. When these factors are considered, digital technologies can be useful pedagogical tools for enhancing the learning process for ESL learners.

5.1 Limitations

The most critical limitation that the study faced was the lack of credible studies focusing on KSA high school learners. The few available studies had quality issues, particularly author bias, outcome bias, and methodological issues. As a result, the included studies were mainly from other countries where English is not a native language.

5.2 Implications for Future Research

Although this systematic review sought to investigate the efficacy of digital technologies in language learning for ESL students, there were some emergent themes requiring further attention in future research, as they are beyond the scope of the present study. For instance, there is a gap regarding the impact of digital technologies on the learning of English for ESL learners with

disabilities. This category of learners is already disadvantaged in the classrooms owing to the inability to perform some activities or learn in what is considered conventional. Hence, in line with the KSA government's commitment to providing quality education to all and understanding the challenges that are specific to this group, there is a need to explore this area to foster inclusivity. Another gap is the apparent need to explore the use of technology for learners in rural schools and those from low socioeconomic backgrounds. Although the present study touched on the impact of accessibility, which captures the category of socioeconomic influences, there are still other pertinent features that impede learning using digital technologies.

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