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# Digital Learning Environment for English Learners in Primary Schools: A Systematic Literature Review

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## Abstract

English has always been considered as one of the most widely used languages around the world. In Malaysia, as part of the Commonwealth countries, English has been essential in commerce, trade, and has been used in all aspects of the society. Moreover, English has been taught in formal education even since before Malaysia was formed in 1963. This paper aims to discover the most popular online platforms in English learning for primary students and factors that encourage them to continue using the digital learning environment. 27 items checklist of PRISMA 2020 (Preferred Reporting Items for Systematic Review and Meta-Analyses) were used to analyse documents found in two databases, SCOPUS and ERIC. A total of seventeen documents had been analysed and the current trend has been discovered. Based on the analysis, pre-test post-test method was the most method used in these documents. As a whole, students' performance increased with the use of digital learning environment and they were thrilled in using it as a learning tool. The positive feedback from the results continue to encourage the researchers in utilising digital learning platform for all English teaching and learning processes. As for future research, researchers are encouraged to discover possibilities to develop their own digital learning platforms to enhance continuous learning of a specific language skill rather than a tool to monitor a certain learning stage itself.

**Keywords:** *digital learning environment; primary English learners; elementary English learning; PRISMA*

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## I. INTRODUCTION

English learning in Malaysia has always been the spotlight of the formal education both in public and private schools. From ETeMS (English for Teaching Mathematics and Science) to the recent MBMMBI or Memartabatkan Bahasa Malaysia Mengukuhkan Bahasa Inggeris (Malay for Upholding the Malay language and strengthening the English language) policies, English learning has always been the focus of the nation, even when English was abolished in teaching Science and Mathematics. Since the Movement Control Order was announced in March 2020, schools had been opened and closed several times depending on the current pandemic situations. Hence, digital learning has once again been highlighted as the mainstream medium of education as it substitute traditional classroom settings and set education free from any location limits. As [1] mentioned, educators often used e-learning platforms to enhance their learners' learning experience and thought that e-learning provided an enjoyable learning experience while bringing an array of advantages. Nevertheless, digital learning environment has more to offer rather than just fun learning.

## II. LITERATURE REVIEW

The following are some of the sections that the researcher intended to contemplate on:

### A. Digital Learning Environment (DLE)

Digital learning environments are defined as 'central to endeavours to design, develop and deliver learning opportunities. [2] The author further highlighted that beside Learning Management Systems or LMS, other platforms such as social media, blogging platforms or other independent digital environments might be less defined but should raise the awareness among all educators. [3] had also cited Renton School District's definition of digital learning and stated that digital learning is 'any instructional practice that effectively uses technology to strengthen a student's learning experience' and they had included a wide range of tools such as software applications, simulations, online databases, environment for rich collaborations and communications, hybrid or blended learning. They further concluded digital learning combines technology, digital content, and the instructions to carry out teaching and learning activities. Digital learning has indeed included m-

learning (mobile learning) and e-learning as part of the progress. Digital learning environment created has no longer been limited to online learning only, but including learning through electronic devices, newly developed educational tools, virtual reality (VR) learning and even augmented reality (AR) learning. It has opened the possibilities of learning and brings learning out from the traditional classrooms of four walls into a wider space and broader aspect. Broadcasting of education programmes through television channels and radios might have seemed outdated and yet they served those regions that might have unstable Internet connections or mobile network. Students could still rely on these mediums to continue their learning and these two mediums were also part of the digital learning. Digital learning environments are not new since the lockdown of schools around the world. Educators worldwide tried their best and made thousands of materials and delivered their lessons through the Internet since the pandemic outburst. The Ministry of Education of Malaysia (MoE) had launched DELIMa, or 'Digital Educational Learning Initiative Malaysia', alongside with partners of Google, Microsoft and Apple. [4] The ministry was determined to keep teaching and learning on track even when the students would have to learn from their homes. Thus, it was not a surprise that Google claimed that they had supported 150 million users including students, educators and school leaders around the world to teach and learn ever since it was

### III. RESEARCH METHODOLOGY

Previous literature review has shown that fewer studies had done on primary or elementary schools' learners on how they learn English through digital learning environments. To dig into the massive digital learning environment throughout the world, a Systematic Literature Review (SLR) has been conducted to trace the trend of common digital learning environment used by educators to teach and facilitate English learners in primary or elementary level. This paper will also focus on the language skills commonly highlighted in digital learning environment and the learners' academic performances after using these tools to learn English. This review was carried out to answer these questions:

1. What is the most popular digital learning platform for primary students in learning English?
2. What language skills are mostly taught using digital learning environment?

established. [5] However, learning language, especially learning English as Second Language or Foreign Language, would not be easy without the constant engagement of the learners in their learning progress. English learning in digital learning environment would be further discussed.

#### B. Digital Learning of English

[6] revealed that with digital learning environment, learning English even in an informal way would boost the learners' learning performances. He further explained that through digital learning environment, learners could have frequent practises that boost their language learning skills. [7] further confirmed that through exciting digital learning environment, such as YouTube, WhatsApp, Instagram, Google Classroom and Facebook, the English learners were motivated to involve in their learning progress and took charge of their outcomes. This research further supported by [8] where the learners were triggered the most if popular and effective computer environments were used, such as social media platforms or established online learning environments. They further highlighted that digital learning environments can offer their learners self-paced and collaborative learning. Despite the advantages of using digital learning environments, they uncovered that it might not be suitable for primary and secondary education as the young learners might not develop personal interests in learning without the effectiveness of teachers' scaffolding.

3. Did the digital learning environment improve English learning among primary students?

PRISMA 2020 or Preferred Reporting Items for Systematic Review and Meta-Analyses checklist has been used to conduct this systematic literature review (SLR). The 27 items of the PRISMA checklist refine and manage the review process and provide the insights of the current digital learning environment progress. This tool also minimises redundant search and review, thus focuses on providing clear path for future research in this related field. This paper aims to discover the current trend of digital learning environment and its effectiveness of aiding the young learners in mastering English. Records of two databases, SCOPUS and ERIC, were being selected as they provide a wide range of documents related to education especially technology used in education. There were four phases throughout the review process, which are the identification phase, screening phase, eligibility phase and inclusion phase.

**A. Phase 1: Identification Phase**

ERIC and Scopus were the two databases used in this systematic literature review. ERIC (Education Resources Information Centre) is well-known for a remarkable collection of publications related to education and it suits the theme of this review paper. Whereas Scopus has always been a leading database that provides wide range of publications across different fields of research. As for digital

learning environment, this theme touches the technology used in education and is considered as one of the 21st Century Learning Skills to be cultivated among the young learners. Through these two databases, the search range has been limited between 2018 and 2022. Keywords used were listed in Table 1 below. Additional criteria of inclusion and exclusion were listed in Table 1 as follow.

**Table 1.** Keywords used in two different databases to find related articles.

Databases	Keywords
Scopus	TITLE-ABS-KEY ((“digital learning environment*” OR “digital English learning environment” OR “online English learning” OR “E-learning for English*” OR “D-learning*” OR “E-learning platform for English*”)) AND ((“primary schools*” OR “elementary schools*”))
ERIC	digital learning environment, digital English learning environment, ICT, ESL

**B. Phase 2: Screening Phase**

In this phase, all articles were skimmed and scanned. Duplicate records were excluded. The rest of the

documents were analysed carefully to fulfil the criteria set.

**Table 2.** Inclusion and exclusion criteria.

Criterion	Inclusion	Exclusion
Type of article	Journal articles	Book, book chapter, systematic review, proceedings
Language	English	Non-English
Year	2018–2022	<2018
Peer review	Peer-reviewed	Non-peer-reviewed
Academic level	Primary or elementary schools	Non-primary or elementary schools

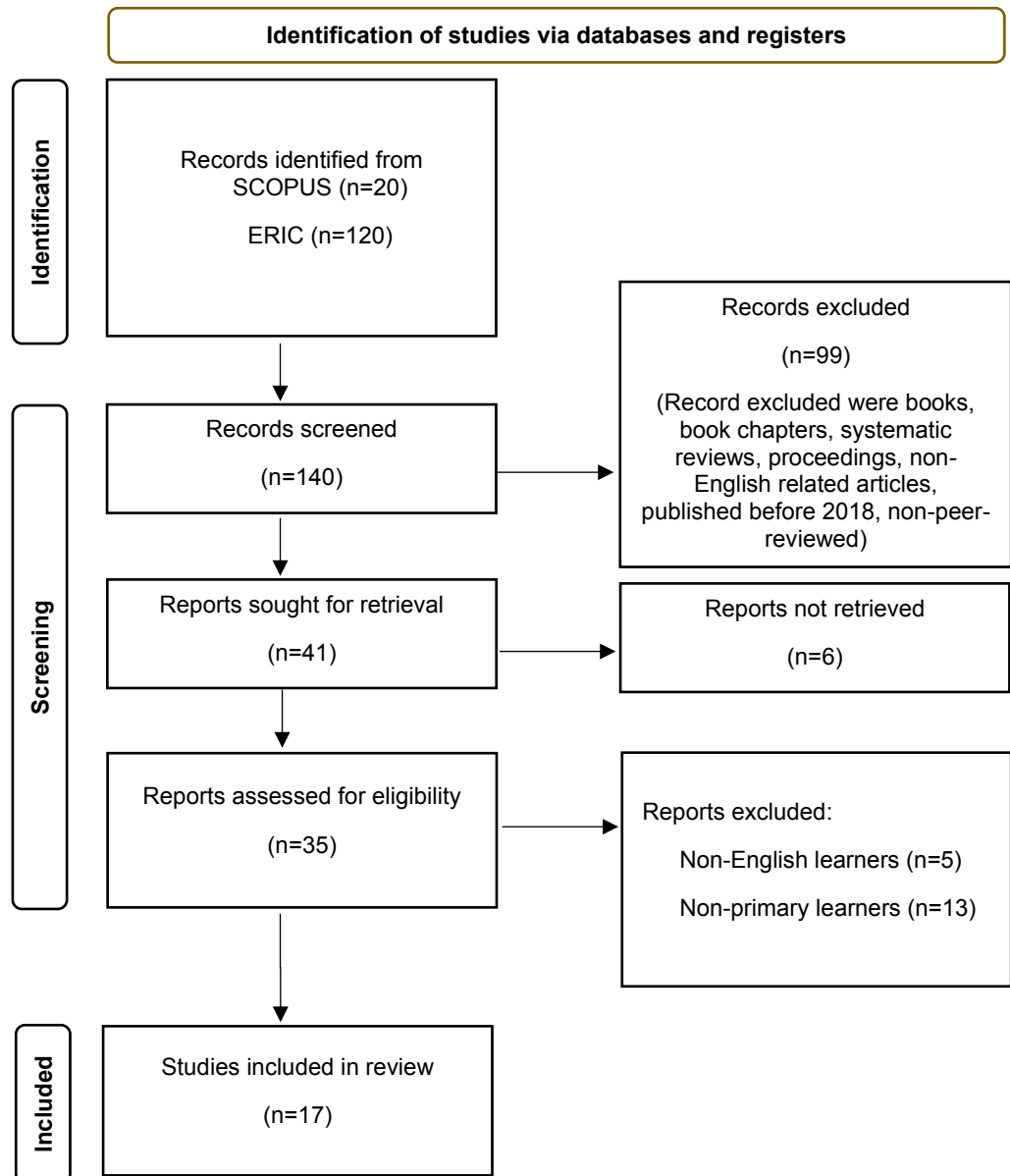
**C. Phase 3: Eligibility Phase**

As for this phase, all articles were checked for their eligibility. All articles have to meet with the criteria mentioned in Table 2 above.

**D. Phase 4: Exclusion Phase**

For the last phase, articles that did not meet with the criteria were excluded from the systematic literature review. This process was important to ensure the quality of the data obtained. These excluded articles were non-journal articles and were published before

the year of 2018. Non-English journals were excluded as well. Journals without peer reviewed or non-primary schools related were excluded to ensure the quality of the data. Figure 1 explains the whole process of reviewing.



**Figure 1.** The entire process from Phase 1 to Phase 4.

#### IV. RESULTS AND DISCUSSION

After the thorough process of Phase 1 to Phase 4, 17 documents have matched the criteria. These documents would be listed and analysed in this section. From the articles selected, types of digital learning environment had been named and categorised. The students' academic performance and their willingness to continue using digital learning environment had been recorded. From Table 3, types of digital learning environment, aspects or language skills focused in the study and

also students' academic performance was listed. From the total of 17 articles, 1 of them focused on using digital device, which was the iPad, other studies did not limit the digital devices used. The rest of the studies explored different applications or platforms in digital learning by using existing platforms like YouTube, Quizizz, Google Classroom to develop their own digital learning environment or platforms.

**Table 3.** Types of digital learning environment, students' academic performance and willingness to continue using digital learning environment.

Article	Digital Learning Environment	Focused on	Students' Academic Performance
[9]	YouTube	Writing	Improved
[10]	Photovoice	Assessment of tool	Not mentioned
[11]	Word Knowledge E-Book (WKe-Book)	Reading	Improved
[12]	Novelette	Writing	Improved
[13]	Storybooks Alive (AR)	Vocabulary learning	Improved
[14]	Digital Storytelling application (self-developed)	Vocabulary learning	Improved
[15]	Quizizz	Grammar	Improved
[16]	digital games on Education Informatics Network	Vocabulary learning	Improved
[17]	Reading Gate program	Reading & Grammar	Improved
[18]	Webpages of ClassDojo	Creative thinking	Improved
[19]	VRAPT Class (VR)	Pronunciation Vocabulary learning &	Improved
[20]	Audio books on tablet	pronunciation	Improved
[21]	Social media	Writing	Improved
[22]	Digital Storytelling application (self-developed)	All skills	Improved
[23]	iPads	All skills	Improved
[24]	Moodle (self-developed)	All skills	Improved
[25]	Google Classroom	Spelling	Improved

Among 17 articles analysed and discussed here, 12 out of 17 researches [11, 12, 13, 14, 15, 16, 17, 18, 19, 22, 24, 25] created or used game-like environments to undergo the teaching and learning process. As the researchers of [26] had revealed that effective, engaging learning and teaching approaches are important to engage learners into their learning and thus gamified learning had brought a great impact in learning English. [26] It also met the young learners' nature to have fun learning in absorbing the knowledge easier. Gamified learning could also make repetitive language practices more challenging and exciting. 3 out of 17 researches [9, 10, 21] applied social media as their digital learning environment. 8 out of 17 researches [11, 12, 13, 14, 17, 19, 22, 23] were digital storytelling tools or storyboard environment. Researchers of [27] had reviewed that one third of their results showed that digital storytelling increases the motivation of the student in the

learning process. Therefore, digital storytelling continued to be a popular tool for educators to carry out their teaching of the English language among young learners as digital storytelling tool could engage the learners in various language skills such as listening, speaking, reading and writing on a task assigned. Technology Acceptance Model (TAM) was believed as a solid base of evaluating the users' perceptions and acceptance towards a certain tool especially in applying technology in education as mentioned by [28] and further proven by [29]. Despite the widespread of using TAM in evaluating digital learning environment, among the 17 articles reviewed here mostly did not mentioned the use of TAM clearly. Instead, two articles mentioned that they applied the learning model ADDIE, which is the acronym of a five-step process for Analysis, Design, Development, Implementation, and Evaluation, to develop their technology educational tool. [22, 24] The researchers had proven the

effectiveness of their digital learning environment and stated clearly by 16 out of 17 articles that the students' academic or language skills performance had been improved through these digital learning platforms. Article [10] did not mention the academic performance of the learners. However, they included the parents' view of the advantages of digital learning environment among their children whereby their children had learnt to use technologies immediately while using the new learnt skills to learn other subjects through digital learning

environment. Article [10] also documented the parents' concern of their young children in using technology during English lessons and this challenge further mentioned by [30] as the low proficiency level of English among the learners might hinder their engagement in English digital learning environment.

## V. CONCLUSION

As a result, most researchers would develop digital learning environment for their English learners as a supplement of routine learning or traditional classroom learning. Blended learning or flipped classroom learning is also some of the popular trend of utilising digital learning environment. The continuous development of standalone digital learning environment proves that it is rewarding and profitable to conduct teaching and learning through these platforms. As a tool of supporting continuous learning, digital learning environment in teaching English among primary learners could be explored further to cultivate interest of learning English among young learners. There are limitations of this study that need to be addressed for future research. There were only seventeen documents obtained from Scopus and ERIC which were analysed in this systematic literature review. The authors could only

choose two data-bases to search for these articles regarding digital learning environment as to abide the time frame. Other limitations were that some of the researchers did not mention clearly their participants' age group or academic background, thus these articles would have to be eliminated. Some researchers also did not mention any language taught in their research; therefore, these articles had been excluded from the final analysis as well.

This paper wishes to draw out the current trend of using digital learning environment in teaching English primary or elementary learners. It will further contribute some insights of research among young English learners as to enhance their learning and to build concrete foundation for these learners to continue learning English in future.

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