

Telegram Bot as a Digital Learning Platform in English Language Teaching and Learning

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ABSTRACT

Transformation of digital technologies in education has become increasingly popular in recent years. Language teaching has seen a surge in digital learning tools and platforms that offer new and innovative ways of teaching and learning. This study focuses on the use of telegram bot platform in English language teaching and learning activity, as well as many benefits that learners can obtained. A systematic review was employed in this study to investigate the utilization of telegram bot as a digital learning platform in English language teaching and learning by analyzing publication from ERIC and Google Scholar using specific keywords related to the research topic. The search criteria included studies published in English between 2020 to 2023. In total, 10 relevant chosen articles, Preferred Reporting Items for Systematic review, and Meta-Analyses (PRISMA) 2020 guidelines were applied. An inclusion and exclusion criteria selection process were carried out prior to the start of the review to assure the focus of the study. Based on the findings, the articles reviewed claimed that telegram bot platform has various benefits including the effectiveness and advantages in English language teaching and learning. Overall, Telegram bot has the potential to enhance language learning by providing interactive and fun learning experiences. Telegram bot can be a valuable addition to English language teaching and learning practices, teachers and educators can take advantages of telegram bot to provide learners with more beneficial practice to maximize their English skills and knowledge.

Keywords: telegram bot, digital platform, English language teaching & learning.

INTRODUCTION

Telegram is a versatile messaging application that provides a distinctive platform for creating interactive bots, catering to users' specific needs and delivering customized services. It is a globally accessible free and premium messenger, offering cross-platform compatibility, cloud-based functionality, and centralized instant messaging. Telegram designed to facilitate mutual users send text, audio, video, images, and messages safely (Fahana & Ridho, 2018). Incorporating telegram into existing learning practices offers informal learning environments and opens fresh avenues for learning English (Mashhadi & Kaviani, 2016).

Telegram bot provides telegram users with a range of functions and automations, allowing integration within their chats, channels, or groups. Utilizing telegram bot as a learning platform brings numerous advantages, including flexibility, accessibility, and interactivity. Learners can conveniently access learning materials and exercises anytime and from anywhere, while also receiving immediate feedback on their progress. By telegram bot, teaching and learning materials can be virtualized into diverse formats, making it more interesting and more dynamic to motivate students to delve deeper into their learning process (Hartanto, 2015). English language teachers can take advantages of this technology by designing bots that offer language learning content and practice exercises. The bot can also be programmed to adapt to the learner's needs, providing personalized learning experiences. Moreover, Aghajani (2018) conclude that telegram bot enhances the significance of the learning environment and contributes to the improvement of students' learning outcomes. It actively fosters a cooperative environment and boosts students' motivation. In line with that, Zhang (2016) concluded that a reasonable option of an appropriate application not only enriches the studying experience, but also encourages learners to utilize their mobile devices in more sensible manners than they are accustomed to.

Educators need to understand the condition of students in the 21st century, based on research conducted by the OECD (Organization for Economic Co-operation and Development), students in this era, need more than academic skills to survive and become prosperous individuals. Critical thinking, creativity, communication, and collaboration are not enough in the 21st century without the use of ICT like telegram bot digital platform along with them. The utilization of technology to support the successful of learning process is an obligation in the Revolution of Industry 4.0 era especially in the 21st

century.

Telegram bot offers a convenient and innovative ways to enhance language learning. Telegram bot can engage learners in interactive and dynamic activities, such as quizzes, games, and exercises, which can make language learning more fun and engaging. Telegram bot as a digital learning platform has lots of potential in English teaching & learning activities. For instance, a study conducted by Al-Shehri and Al-Qahtani (2021) explored the effectiveness of a telegram bot in teaching English vocabulary to Saudi EFL students. The results showed that the bot was effective in improving students' vocabulary knowledge and retention. Similarly, a study by Al-Hajri and Al-Bulushi (2020) investigated the use of a telegram bot in enhancing EFL learners' speaking skills. The results showed that the bot was effective in providing learners with speaking practice and feedback.

Telegram bot can be built according to the needs, for example, integrating them with other services for managing smart homes, creating social services, developing personalized tools, and many more. Like, Gde Sastrawangsa (2017) uses telegram bot as Automated Student Services and Information in the Smart Campus Concept. The concept starts from searching for all information about the campus, admissions to requesting forms and carried out through the telegram messenger application. Students will chat with telegram bot which are designed in such a way as to be able to provide campus information and services, as well as other documents that will be used to facilitate dealings with related sections on campus.

However, many studies on telegram bots as digital platform were only on general technology matter, focusing on general issues only. It is crucial to emphasize that the research were not conducted in English context and had no bearing on English language teaching and learning. It requires further information specifically to investigate more potential, features, and its benefits clearly especially for English language teaching and learning. Furthermore, this review presents various ideas where telegram bot can be used as a digital platform that has the potential to create interesting and varied learning and provide a pleasurable learning experience in English language teaching and learning.

Hence, the objective of this review was to investigate the utilization of telegram bot as a digital learning platform in English teaching and learning. An explanation is provided on the significant role played by telegram bot in English language teaching and learning activities. Two research questions were formulated to ascertain the studies that would be examined in this review: (1) What English

materials can be loaded into the telegram bot? (2) What benefits do the learners get in learning English through telegram bot? These questions served as a framework for selecting relevant publications for the review. Upon the examination of the studies, the findings were consolidated to address the questions. This systematic review utilized the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards.

METHOD

This study employed the Preferred Reporting Items for Systematic review and Meta-Analyses (PRISMA) to guide a systematic review for data collection, organization, and articles review analysis. Firstly, a comprehensive search of the ERIC and Google Scholar databases was conducted to obtain the articles for this systematic review. The goal of the review was to provide useful information, features, and benefits of telegram bot in English teaching and learning. By examining a variety of relevant articles, this study explores the potential, thoughts, perceptions in using telegram bot as a digital platform in English language teaching and learning. This review followed specific procedures based on five phases: framing the question, identification, assessment, summarization, and interpretation. The steps outlined in Figure 1 below illustrate the process.

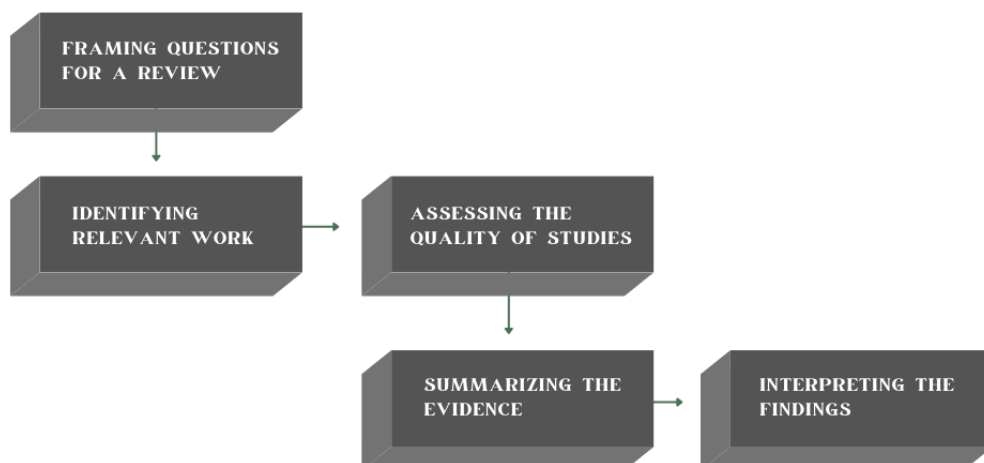


Figure 1. Systematic Literature Review Phases.

1.a. Phase 1: Framing Questions

The popularity of incorporating digital technologies into education has grown significantly in recent times. Educators have become increasingly conscious of the necessity for advanced and

inspired ways to captivate students in the process of acquiring the English language, such as the importance of digital platform like telegram bot and various benefits that it offers. The objective of this study is to present a broader potential of this digital learning platform which can be utilized in English teaching & learning activities from articles published between 2020 and 2023. The research questions were: (1) What English materials can be loaded into the telegram bot? (2) What benefits do the learners get in learning English through telegram bot?

1.b. Phase 2: Identifying Relevant Work

This study utilized two databases, namely ERIC and Google Scholar, for data collection and analysis. ERIC or Education Resource Information Centre is an online digital library that involves on education research and offers entry to a vast collection of more than 1000 extensively indexed academic journals. On the other hand, Google Scholar is a subset of the Google search index and offers a wide array of peer-reviewed articles and full-text content covering various subjects. This database also encompasses technical reports, theses, books, and even web pages acknowledged as credible academic sources. Subsequently, the initial step in phase two involved conducting a search for pertinent articles pertaining to the research topic. The subsequent step entailed selecting articles based on the inclusion and exclusion criteria defined for the review. Table 1 displays the keywords utilized during the search process to identify articles related to telegram bot as a digital learning platform in English teaching and learning, with a specific emphasis on the English language context.

Table 1: Keywords used in the selection of significant articles.

Databases	Keywords
ERIC	Telegram bot in English education Telegram bot in English language Telegram bot in English language teaching Telegram bot in English language learning
Google Scholar	Telegram bot in English education

	Telegram bot in English language
	Telegram bot in English language teaching
	Telegram bot in English language learning

1.c. Phase 3: Assessing the Quality of the Studies

To ensure that the articles selection processes obeyed a review framework, a specific parameter for selection based on eligibility and exclusion criteria was defined. Only articles that met the eligibility criteria were considered for the final review. The articles must be recent (between 2020 and 2023) and focus on the usage of telegram bot as a digital learning platform in English teaching and learning. Additionally, peer-reviewed, and full-text articles were required. The articles' research designs could be quantitative, qualitative, or mixed method. On the other hand, the exclusion criteria encompassed books, book chapters or series. Furthermore, articles published prior to 2020 and those that examined telegram bot in a general context were excluded from the review. Table 2 contains a summary of the eligibility and exclusion criteria.

Table 2: The eligibility and exclusion criteria.

Eligibility	Exclusion
Journal (Research articles) <ul style="list-style-type: none"> • Telegram bot in English teaching & learning • Peer reviewed and full text • Quantitative, qualitative, and mixed methodologies 	Book, book chapters, book series <ul style="list-style-type: none"> • Telegram bot in general • Not focusing on English context
English	Non-English
Between 2020-2023	Before 2020

These criteria aided in narrowing the exploration for relevant articles and directing the review's focus.

1.d. Phase 4: Summarizing the Evidence

Two databases were used for this review, namely ERIC and Google Scholar were selected to search for relevant articles. Using the review's keywords, a total of 98 articles were chosen using the eligibility and exclusion criteria for screening. The first-round screening resulted in the rejection of 9 papers, nine of which were duplicates. This left 89 articles for a second stage of screening, where they were publications written before 2020, articles focused on different educational contexts such as chemistry, and so on, and ultimately, articles on general topics were combed through and removed from consideration. This left 46 articles to be inspected and assessed using the eligibility and exclusion criteria, and a final decision was made in which 36 articles were removed since they did not meet the stated requirements.

1.e. Phase 5: Interpreting the Findings

The last and fifth phase was to evaluate the findings from the 10 articles chosen based on the telegram bot as a digital learning platform in English language teaching and learning criteria. The 10 publications were grouped into three research method categories. There were 4 quantitative studies, 2 qualitative studies, and 4 mixed-method studies. Table 3 analyzes the approach employed for the papers, revealing that the quantitative and mixed methods are the most utilized research methods. The sample of the studies was largely EFL students and senior high school students from the 10 articles chosen.

Table 3: Number of studies based on the research designs.

Methods	ERIC	Google Scholar
Quantitative	1	3
Qualitative	-	2
Mixed-Methods	-	4

FINDINGS AND DISCUSSION

After completing the five phases of eligible articles selection, a total of 10 articles were found suitable for inclusion for this review. As a result, the findings of the prior investigations will be addressed in depth. Regardless of the research designs (quantitative, qualitative, or mixed method), telegram bot as a digital learning platform in English teaching and learning was met in all the research chosen. It was revealed from the collection of 10 articles that all English materials,

such as vocabulary, reading, listening, writing, speaking, and grammar materials can be loaded into telegram bot in a variety of designs. Although some of the researchers concentrated on one English material, others put a combination of all English materials into the telegram bot during their study. Table 4 summarizes the English materials loaded in the telegram bot.

Table 4: Overview of English materials loaded into the telegram bot.

No	Author(s)	Database	Study Design	Sample	Loaded English Materials
1	Aisyah, R. N., Istiqomah, D. M., & Muhclisin, M.	GS	MM	47 English study program students	All English materials
2	Syifa, Q. A.	GS	QL	2 junior high school students, 1 English teacher	All English materials
3	Ayfah, A. Z.	ER	QN	300 EFL college students	Vocabulary materials
4	Sulistyanto, I. & Prellani, N.	GS	QN	72 tenth grade students	Reading materials
5	Istiqomah, D. M., Aisyah, R. N., & El-Sulukiyyah, A. A.	GS	MM	59 English department program students	Listening materials
6	Arintistia, N.	GS	QN	72 senior high school students	Writing materials
7	Sulukiyyah, A. A.	GS	MM	75 English education study program students	Speaking materials

8	Gufroni	GS	QL	5 senior high school students, 1 English teacher	Grammar materials
9	Hariz, W., Sudana, D., & Gunawan, W.	GS	QN	60 senior high school students	Vocabulary materials
10	Hidayat, R., Susanto, F., & Rahayu, E. M.	GS	MM	40 English teachers	Listening materials

QL = Qualitative; QN = Quantitative; MM = Mixed Methods; GS = Google Scholar; ER = Eric.

Most of the research focused on learners from high schools, universities, and colleges. Another crucial aspect to note is that as the focus of the review is about English language teaching and learning, the majority of the research focused on respondents who were related to the English language or English subject.

Based on the overall analysis, a variety of English materials can be loaded into telegram bot in all the studies included for this review. There were two studies that loaded all English materials into telegram bot (Aisyah, et al., 2020 & Syifa, 2022), in these studies, the researchers used telegram bot to load E-learning module that contained all English materials for English language learning, Aisyah et al stated that after implementing E-learning modules with the telegram bot program, it is possible to address issues that have arisen by a shortage of teaching materials and the creativity of using internet technologies. The findings from their study revealed that telegram bot program can be used as innovations in classroom, as 21st century learning media, and assist the teacher in facilitating learners with varying learning characteristics and learning speeds, as an option to developing blended learning based on the features and requirements of the learning environment that can be accessed any time and from any location. The advantages that students can get are telegram bot is easily controlled or operated in accordance with the wishes of the user, it has music, video, and slide presentation learning objectives. Flipbooks include videos based on the sub material covered, online learning and evaluation of questions with the telegram bot program. These findings are important for educators, as they need to ensure

that students in the 21st century need the utilization of technology in their learning process. Many online learning media can be used in e-learning by teachers as learning platform, one of them is telegram bot (Saribekyan, 2017). Besides that, to achieve the best results, learning-based online learning tools must be supplemented with face-to-face communication style with students (Perlis, 2016). On the other hand, Syifa carried out research on junior high school students, and found that the usage of a telegram bot undoubtedly makes it easier for students to receive and study English information given, and it is simple for teachers to generate longer duration material in the form of video and audio. Researcher also found that teachers use telegram bots' channels on teachers telegram application to deliver material like videos and images that are in accordance with the material being taught. Indeed, there are so many digital platforms that teachers can use, such as the previous study conducted by John (2021) instagram, facebook, whatsapp and telegram. However, a digital platform that is very interactive and can be modified according to the user's needs and wishes is only telegram bot.

Another English material which can be loaded into telegram bot were English vocabulary materials. The studies conducted by (Ayfah, 2020 & Hariz, et al., 2021) showed that the use of telegram bot can significantly increase the vocabulary skills of high school students positively and facilitate the identification of the characteristics of the vocabulary learned by students to suit instructional objectives curriculum when it comes to learning English as a foreign language. Students viewed the telegram bot as an effective tool for English language learning, particularly vocabulary acquisition. And many of the students preferred to use telegram bot for vocabulary learning, and most of them indicated that utilizing telegram for vocabulary learning provided them with new words that are often used in daily life. Ghobadi & Taki (2018) indicated that teaching vocabulary with a telegram bot could provide significant benefits to students. According to the researchers, it had a positive impact on EFL learners' learning of new vocabulary items. In line with the findings of a study done by Heidari, et al (2018). The authors investigated the role of a telegram bot in EFL learners' mastery of word stress patterns in English. The results revealed a statistically significant difference, it means that telegram bot was effective in learning English vocabulary.

The next English material that can be loaded into telegram bot based on the analysis for the review were English listening materials. In two studies conducted by (Istiqomah, et al., 2021 & Hidayat, et al., 2021), the telegram bot program was employed as an advancement in 21st century classroom learning media, assisting teachers in working

with pupils who have distinct learning characteristics and learning speeds. As a result, teachers can use learning media as an alternative to developing blended learning based on the characteristics and needs of the learning environment, which can be accessed at any time and from any location. Telegram bot provides not only convenience as a means of learning English, especially for improving listening skills. It also provides various features that are very suitable for learning listening skills such as providing a means of making multiple choice questions, polling features, quiz descriptions, text, images, and most importantly audio. The richness of the capabilities in this platform can also be used to perform learning activities and evaluations (Ismawati & Prasetyo, 2020).

For a study conducted by (Sulukiyyah, 2022), the next English material which can be loaded into telegram bot was English speaking material. Researcher explained that students' pronunciation improved before and after utilizing the pronunciation dictionary in the telegram bot. It can be demonstrated by saying some of the accessible words and menus, such as past verbs, animals, and homophones. Additionally, it was demonstrated that students agreed that the use of a telegram bot can help their pronunciation practice, and this bot can provide students with learning flexibility as a digital learning goal. It is in line with a study conducted by Richards (2015), that explained the incorporation of technology in the language classroom is essential due to its various functions, including its ability to serve as a student-friendly electronic language dictionary. The technology in this example is a telegram bot that has been turned into an online pronunciation dictionary.

English reading material was next, for a study conducted by (Sulistyanto, 2020), senior high school students were taught using bot telegram in learning reading narrative text, and the findings revealed that it was effective. It also provides new perspectives and skills for English teachers in using creative platforms to convey things to students so that they do not become bored in class. When students' curiosity grows, so does their reading habit (Sari, 2017). The students enjoyed reading the articles or books in the telegram. It means that employing the telegram bot improved students' reading skills.

Finally, it is worth noting that there was one study which discussed about English grammar material loaded into telegram bot by (Gufroni, 2022) and English writing material loaded into telegram bot by (Arintistia, 2022). In the study that Gufroni did with his learners, the usage of a telegram bot as a learning media for learning English grammar provided several valuable characteristics for students, allowing them to feel joyful and enjoy themselves while

teaching and learning. Students, on the other hand, are pleased since the telegram bot may be used as a search engine, allowing them to look for any content connected to lessons and studies separately or in groups. Telegram bot increased the effectiveness of learning activities and assisted students in clearly understanding content, particularly when learning grammar. For the teacher, telegram bot has many features that set it apart from other applications. It can be used as a search engine, to download files, music, or videos, and to create tasks or assignments. Besides that, for a study conducted by Arintistia, it concluded that the use of bot telegram as media to teach writing ability on recount text is effective for her students. Whether it was grammar or writing, Hikmah (2019) concluded that the way to master the language skills is practice it, in various aspects such as listening, speaking, reading, and writing. An effective way to achieve language mastery involves utilizing appropriate media or platform to create an enjoyable learning environment.

CONCLUSION

The innovative digital learning platform which integrates interactive content, personalized designs, and real-time feedback to empower students with engaging and effective educational experiences is the one that educational fields need, especially in English language teaching and learning activities. In this review, the researcher looked at telegram bot potential in the world of English education. The studies examined in this systematic review totalled 10 articles on telegram bot as a digital learning platform in English language teaching and learning. These studies highlighted the various of English learning materials that can be loaded and presented through telegram bot in various forms, and obviously, the studies that were examined also revealed the advantages or benefits of telegram bot utilization in delivering the English materials that help learners acquire good English language skills, gain a good learning experience, simultaneously, learning activities become more effective and assist students in clearly understanding material. The same goes for the teachers, this shows that the utilization of telegram bot in the classroom can serve as a cutting-edge solution, acting as a contemporary learning tool in the 21st century. This technology aids instructors in accommodating students with diverse learning styles and paces, providing a flexible alternative to implementing blended learning. Moreover, it caters to the unique requirements and dynamics of the learning environment, offering accessibility and convenience at any given time and place.

This review provided ideas of how educators can employ interactive English learning materials, in the form of videos, audios, image, multiple choice questions, polling features, quiz descriptions, text, and many more. To adapt the evolving landscape in the 21st century, it is crucial for educators to embrace the concept of utilizing digital learning platforms to facilitate English language teaching and learning. This becomes even more important considering the shift of teaching and learning activity towards blended learning after the pandemic. Teachers must exhibit openness to innovative approaches and acknowledge that digital learning platforms, such as Telegram bots, are inevitable and should be embraced. Embracing this platform can serve as a hope in achieving digital learning goals in all education fields. Therefore, future studies could investigate the digital platform which can be a useful resource for students seeking to enhance their language development and at the same time, researchers should conduct additional research on how digital learning platform like telegram bot potentially benefit other institutions looking to integrate lessons or learning materials.

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