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DOI: https://doi.org/10.33394/jollt.v%vi%i.10754

April 2024. Vol.12, No.2 p-ISSN: 2338-0810 e-ISSN: 2621-1378 pp. 952-962

UTILIZING WORDWALL.NET ON THE IMPROVEMENT OF STUDENTS' VOCABULARY MASTERY: AN ICT-BASED LESSON

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Article Info	Abstract			
Article History Received: Revised: Published:	The utilization of Information and Communication Technology (ICT) holds an important role in language learning, as it stimulates students' enthusiasm for studying, encourages lifelong learning, enhances critical thinking skills, grants learners more autonomy, confidence, and motivation. In the EFL classroom,			
Keywords ICT-based learning; Wordwall.net; Vocabulary mastery; EFL Learners;	vocabulary mastery is one of the most important yet difficult language components especially for young learners to master. This study aimed to examine how vocabulary mastery of 7th grade students in one of public junior high schools in east Java, Indonesia were affected by ICT-based learning through wordwall.net. The study employed a one-group pre-test-post-test experimental design, with the numbers of 32 students. The participants were chosen through the purposive sampling technique. Pre-test and post-test were used to measure a student's vocabulary mastery before and after the treatment using wordwall.net. SPSS 21.0 was used for data analysis to find out whether the students' vocabulary mastery get improved or not. The findings indicated that after using wordwall.net as the ICT based learning media, students' vocabulary mastery significantly improved. The improvement can be proven through the average pre-test score of 57.03 to the average post-test score of 77.34. In terms of the implementation, the usage of appropriate learning media, and student enthusiasm during the learning process are the reasons for the improvement of their vocabulary mastery.			

How to cite: Wandari, T., Unsiah, F., & Sahar, R. (2024). Utilizing Wordwall.Net on the Improvement of Students' Vocabulary Mastery: An ICT-Based Lesson. JOLLT Journal of Languages and Language Teaching. 12(2), pp. 952-962. DOI: https://doi.org/10.33394/jollt.v%vi%i.10754

INTRODUCTION

English plays a pivotal role in contemporary society, serving as the global lingua franca essential for facilitating effective cross-cultural communication (Graddol, 1997; Amalia, 2020). Its widespread usage spans various domains, including academia, commerce, diplomacy, and technology, reflecting its significance as a medium of international discourse and exchange. In the context of Indonesia, the importance of English as a foreign language is underscored by legislative measures aimed at promoting its proficiency and usage. Indonesian law number 12 of 2012 addresses the language of instruction in tertiary institutions, recognizing the utility of foreign languages, including English, in academic settings. As stipulated in the law, the government designates English as a foreign language in Indonesia, thereby emphasizing its role as a vital tool for academic and professional advancement. This legislative recognition of English reflects broader societal trends towards globalization and internationalization, wherein proficiency in English is increasingly viewed as a prerequisite for success in a globalized world. By acknowledging the importance of English as a foreign language within the educational system, Indonesia demonstrates a commitment to equipping

its citizens with the linguistic skills necessary for engaging with the global community and navigating an interconnected world. Moreover, the incorporation of English into tertiary education aligns with broader efforts to enhance educational quality, promote international collaboration, and foster innovation and economic development. By embracing English as a foreign language, Indonesia seeks to empower its citizens with the language skills and cultural competencies needed to thrive in an increasingly interconnected and competitive global landscape.

Learning a foreign language has a significant relationship with the vocabulary knowledge (Riahipour & Saba 2012 as cited in Masruddin 2019). Every language learner should prioritize developing their vocabulary since it is the cornerstone of language acquisition and comes before the development of the other four English language skills namely listening, reading, speaking, and writing. (Masruddin, 2019; Renandya & Richards, 2002). Additionally Marpaung & Sinaga (2019); Amalia (2020), assert that vocabulary plays an exceedingly vital role in language acquisition, particularly in the context of English. The greater our vocabulary repertoire, the more facile it becomes for us to grasp and comprehend a language, as language is essentially constructed from words.

However, for foreign language learners, especially Indonesian students, learning a new language can be difficult because the language rules of their mother tongue and English are very much differ. There are differences in terms of pronunciation between Indonesian and English even if both languages use the same alphabet in writing form (Alpatikah, 2022). Rahman et al. (2023) and Fatimah (2020), agreed that English language learning, particularly vocabulary learning, might not be engaging for most EFL learners in Indonesia. One explanation for this is the challenge of learning vocabulary. Therefore, in order to increase students' enthusiasm, they agreed that appropriate media is required. Furthermore, (Syamsidar et al., 2023) also argued that a students' ability to learn English is categorized as low. EFL students are likely to face the difficulties in remembering the word, the spelling, as well as the meaning of the word being taught (Fatimah, 2020; Machfudi & Afidah, 2022).

Additionally, several problems such as spelling mistakes, pronunciation problems, and word choice in both writing and speaking are major problems that EFL learners likely face when learning the English vocabulary (Hartatiningsih, 2022). In addition, the use of inappropriate strategies, methods, and media in learning might be the other crucial factor that caused such problems. A traditional teaching method, where the students just listen and write the information from the teacher's explanation, is commonly used in Indonesia. (Darmayanti, 2022). Therefore, it has led to the limited vocabulary mastery of the students (Alpatikah, 2022). Relying on the information above, the researchers assumed that students' vocabulary, particularly in junior high school levels, are likely to face difficulties due to the uneasiness. As stated earlier, the selection of the right learning media might be one of the supporting successes to overcome such problems. (Abdul Rahman et al., 2023; Fatimah, 2020).

Therefore, in response to those problems, the researchers believed that there is a clear need to integrate ICT based learning media in the learning process in the classroom. As stated by (Avila & Mayorga, 2020), technology integration in the classroom can greatly facilitate and enhance students' learning, particularly when it comes to learning a foreign language like English. Furthermore, by creating a positive learning environment that supports successful vocabulary teaching and learning, ICT based learning media such as Wordwall.net can increase students' participation in the learning process and help them becoming more enthusiastic about studying (Carmona-chica, 2022; Foutsitzi & Caridakis, 2019). In addition, it is generally accepted that the use of ICT based learning media in the classroom settings brings a lot of benefits such as increasing student-teacher interaction, developing critical thinking abilities, reorienting learning and teaching toward the needs of the students, giving learners more autonomy, confidence, and motivation for successful foreign language learning. (Ahmadi, 2018).

Numerous online learning platforms exist for English vocabulary teaching, but Wordwall.net stands out as one of the most effective resources for students due to its engaging and enjoyable features (Rahman et al., 2023; Syamsidar et al., 2023). Wordwall.net harnesses the power of digital technology to revolutionize vocabulary instruction in the modern era, offering a dynamic and interactive approach to learning. By transforming education into an engaging game, Wordwall.net provides students with a stimulating learning environment that enhances their interest and motivation (Purwitasari, 2022). This edutainment platform offers a diverse array of interactive games specifically designed for vocabulary practice, including information matching, picture matching, quizzes, a wheel of fortune, riddles, and more (Çil, 2021). These interactive activities cater to different learning styles and preferences, allowing students to engage with vocabulary concepts in a manner that is both enjoyable and effective. Research by Wan Azli et al. (2018) highlights the motivational benefits of using online games in the classroom, emphasizing their positive impact on the learning process. By integrating Wordwall.net into vocabulary instruction, educators can create dynamic and immersive learning experiences that captivate students' interest and promote active participation. Moreover, Wordwall.net offers a range of tools for creating interactive educational resources that can be utilized both online and in print. This versatility allows educators to customize learning materials according to their instructional objectives and students' needs, fostering a personalized and adaptive approach to vocabulary instruction. In other words, Wordwall.net emerges as a valuable asset in English vocabulary teaching, offering a blend of entertainment and education that stimulates students' engagement and enhances their learning outcomes. Through its innovative features and customizable resources, Wordwall.net empowers educators to create dynamic and impactful learning experiences that inspire students to actively participate and excel in their vocabulary development.

The previous problem found regarding student's vocabulary mastery in EFL context was also found during the researcher's observation in one of public junior high schools in east Java, Indonesia. The utilization of technology in this public junior high school appears to be somewhat limited. A limited numbers of online learning systems, such as Quizizz and Google Classroom, are occasionally used by the school teachers, but have not incorporate other webbased teaching resources like Wordwall.net. Additionally, the school restrictions prohibit students from bringing their own devices and there is a lack of familiarity with web-based applications. Furthermore, it is clear from the researchers' initial observations that the 7th grade students in this public junior high school struggle to learn English vocabulary. They frequently fail to grasp the objective of the teacher's questions during exercises and find it difficult to respond to them due to their restricted vocabulary that makes it difficult for them to communicate their ideas both in writing and verbally. Considering the information above, there is a clear need for improvement in both students' vocabulary mastery and the integration of ICT based media in EFL classroom. Therefore, the researchers chose this public junior high school as the field of study that put a focus on the utilization of wordwall.net as the ICT based learning media to enhance vocabulary mastery of the seventh grade students.

Several relevant studies have been conducted related to research in the use of wordwall.net to enhance students' vocabulary mastery in secondary high school level across countries. In Turkish and Thailand, the utilization of wordwall.net was used for junior high school students (Cil, 2021; Az Zahrah & Anwar, 2023). In addition, Jannah & Syafryadin (2022) examine student's perception on wordwall.net as a vocabulary-learning resource. In contrast to prior studies, this study focuses on wordwall.net's impact on Indonesian EFL students' vocabulary mastery. Therefore, this study was conducted to find out the impact of

implementing ICT-based learning media namely Wordwall.net, on students' vocabulary mastery in the context of English in EFL classroom. To provide clarity on this issue, the following questions were explored: Can the utilization of Wordwall.net enhance students' vocabulary mastery in the EFL classroom? And Is there any significant difference in students' achievements with wordwall.net and conventional learning media in EFL class in junior high school?

RESEARCH METHOD

Research design

This study utilized a quantitative approach with the experimental research method. According to Sugiyono (2022), the experimental method is a quantitative research technique used in controlled settings to ascertain the impact of the independent variable (treatment) on the dependent variable (outcome). The type of research used in this study is a preexperimental design known as the one group pretest-posttest. Arikunto (2010) defines the one group pretest-posttest design as a research activity that involves conducting an initial test (pretest) before administering the treatment, followed by a final test (post-test) after the treatment. This approach allows for a more accurate assessment of the treatment's impact by comparing conditions before and after the treatment. The researchers chose this design because it aligns with the intended goal, which is to investigate whether ICT-based learning affects students' vocabulary mastery or not. Based on the previously mentioned research type, here is an overview of the one group pre-test-post-test design.

Research Participants

The research focused on a distinct population segment, specifically seventh-grade students at a public junior high school in East Java, Indonesia. This demographic group encompassed eight classes, labeled VII A through VII H, totaling 251 students. The selection of this age group was premised on the assumption that seventh graders are at a critical juncture in their academic journey, where they begin to acquire new and fundamental vocabularies. This stage is crucial for language development, making it a strategic point for examining the impacts of Information and Communication Technology (ICT) on learning outcomes. The rationale behind targeting this specific educational level, as opposed to students at higher grades, lies in the potential for more significant insights into how ICT influences the acquisition of basic language skills.

To facilitate a focused and manageable study, the research employed a purposive sampling technique to select a representative sample from the broader population. This approach led to the choice of one class, VIIE, which consisted of 32 students. This particular class was selected based on observations that identified its students as high achievers with low motivation. This classification suggests that despite possessing the ability to excel academically, these students lacked the intrinsic motivation to fully engage with their studies. By concentrating on this unique subgroup, the study aimed to uncover nuanced understandings of how ICT tools could potentially enhance learning engagement and efficacy among students who might not be fully realizing their academic potential. This methodological choice underscores the research's critical and systematic approach to exploring the complex dynamics between student achievement, motivation, and the integration of ICT in educational settings.

Data Collection and Analysis

Sugiyono (2015) underscores the pivotal role of data collection techniques in the research process, highlighting that the essence of conducting research lies in the acquisition of data. This perspective emphasizes the critical importance of choosing appropriate methods for gathering data, as the validity and reliability of research findings are directly influenced by the

quality of the data collected. Against this backdrop, the current study adopted a structured approach to data collection through the implementation of both pre-tests and post-tests. This methodology is aligned with Riduwan's (2018) definition of a test as an assortment of questions or tasks crafted to assess an individual's or group's competencies, knowledge, intelligence, skills, or abilities. In the context of this study, tests were strategically employed to quantify the vocabulary proficiency of students before and after the administration of a specific pedagogical intervention. The rationale behind the use of pre-tests and post-tests stems from the need to establish a baseline measurement of students' vocabulary knowledge prior to the intervention, thereby enabling a comparative analysis of their performance subsequent to the treatment. This comparative analysis aims to ascertain the effectiveness of the intervention in enhancing vocabulary mastery among the students. By meticulously planning the data collection process and employing tests as a diagnostic and evaluative tool, the study seeks to generate robust and actionable insights into the impact of targeted educational strategies on student learning outcomes. Such a systematic and logical approach to data collection and analysis not only enriches the academic discourse on educational methodologies but also contributes to the development of evidence-based practices in vocabulary teaching and learning.

Subsequently, four sessions of the treatment were given over a period of two weeks. One session was equal to two hours of study (2 JP) with a total time thirty-five minutes for each. During these two weeks of treatment, the students completed exercises based on the material in their textbook. Additionally, students spent 20 to 30 minutes on vocabulary practices on Wordwall.net at the end of each session. To ascertain if the intervention had improved the students' vocabulary mastery or not, a post-test was given to the experimental group after the treatment. A vocabulary knowledge test with 20 multiple-choice questions was used as the data collection method for both the pre-test and post-test. The post-test was given two weeks after the treatment, whereas the pre-test was given right before the treatment began. Vocabulary tests on the topic Family Members and the Time Concept including day, month, years, and time were assessed in both pre-test and post-test which were also presented as a unit in the students' textbooks.

Before being administered to students, validated vocabulary testing were conducted in this study. Examining the test's content and how it was related to the construct being tested was necessary to ensure the test's content validity (Ary et al., 2010). The selection of expert validators was based on their significant background in English education. The validator was one of the school teachers with teaching experience in English subject for years. It could be assumed that she was aware of how to evaluate the validity of the vocabulary test created for this investigation.

RESEARCH FINDINGS AND DISCUSSION

The utilization of Wordwall.net as a new learning media into EFL classroom where traditional media was previously used leads to the transformation that affected student outcome being either positive or negative (Anabel & Simanjuntak, 2022). Following the collection and processing of the output data, which includes the results of the pre-test and post-tests, was than analyze using SPSS 21.0 for Windows. The output data were examined using the paired t-test to see if there was a statistically significant difference between the mean scores before and after the treatment using wordwall.net. The vocabulary mastery of students in the VII E class in one of public junior high schools in east Java, Indonesia was then evaluated using the validated test items as pre-test and post-test questions. The results of the pre-test and post-test are shown in the table 4 below.

Table 4 Data Score Pre-Test and Post-Test

Descriptive Statistics							
	N	Minimum	Maximum	Mean	Std. Deviation		
Pretest	32	40	80	57.03	10.766		
Posttest	32	65	90	77.34	6.597		
Valid N (listwise)	32						

Based on the result shown in the table 4 above, it is clear that, before any intervention or while utilizing traditional methods, the average student score was 57.03, with a minimum score of 40 and a maximum score of 80. On the other hand, with the implementation of wordwall.net during the learning process, the average student score were improved to 77.34, with a lowest score of 65 and the highest score of 90. This shows that after using wordwall.net as an ICT-based learning media in the classroom, students' vocabulary mastery has improved.

The data must then be tested for a normality test after the pre-test and post-test results related to the students' vocabulary mastery have been collected. The aims of the normality test is to determine whether the results collected have follow a normal distribution or not. This study used the Shapiro-Wilk normality test, which was carried out with SPSS 21.0. The test's decision criterion states that the data is regarded as regularly distributed if the significance value is higher than 0.05 (> 0.05), and abnormally distributed if the value is less than 0.05 (< 0.05). The results of the Shapiro-Wilk test are represents in the table 5 below.

Table 5 Tost of Normality

	Test	of inollianty			
	Shapiro-Wilk				
	Statistic	df	Sig.		
Pretest	.951	32	.155		
Posttest	.937	32	.063		

The result of the normality test shown in the table 5 above. The significant value for the pre-test is 1.15 and for the post-test is 0.63. This indicates that the measured significance values is higher than 0.05, leading to the conclusion that the experimental class's pre-test and post-test scores are normally distributed.

Table 6 Paired Samples Test

t	df	Sig. (2-
		(2
		(2-
		tailed)
3.971	31	.000
	3.971	3.971 31

The analysis presented in Table 6 demonstrates a significant finding regarding the comparison between pre-test and post-test results concerning students' vocabulary mastery when utilizing conventional media versus Wordwall.net. The statistical significance, indicated by the Sig. (2-tailed) value of 0.00, which is lower than the conventional alpha level of 0.05 (0.00 < 0.05), suggests a notable difference between the two conditions. This result implies that there exists a meaningful distinction in students' vocabulary mastery before and after

exposure to the two instructional methods. Specifically, it indicates a substantial improvement in students' vocabulary acquisition following the utilization of Wordwall.net compared to conventional media. Such a finding underscores the efficacy of Wordwall.net as an effective tool for enhancing vocabulary learning outcomes among students. The statistical significance of this result highlights the importance of leveraging innovative digital resources, such as Wordwall.net, in educational settings to optimize learning outcomes. By incorporating technology-enhanced instructional approaches, educators can create dynamic and engaging learning experiences that promote active student participation and facilitate meaningful knowledge acquisition.

The overall findings of this study indicate that the utilization of Wordwall.net in the EFL classroom can enhance students' vocabulary mastery. This is evident from the data showing that the average student score before using wordwall.net was 20.31 lower than the post-test score that was acquired after using the website. Furthermore, the students' average score before having intervention was 57.03. It got increased to 77.34 after using wordwall.net throughout the learning process. This demonstrates that the utilization of wordwall.net help students to improve their vocabulary mastery compared to utilizing only traditional methods.

Despite these encouraging findings, it remains essential to acknowledge the limitations of the study. These consist of the duration of the study, a comparatively small sample size, and the possible participant variability. Future studies should focus on these limitations to offer a more comprehensive knowledge of Wordwall.net's efficiency. This study's implications go beyond its immediate setting and point to wider uses for educational technology and language learning. It could be beneficial for the future researchers to investigate how these findings translate to different educational environments and linguistic contexts. Lastly, suggestions for further researcher in this field include exploring Wordwall.net's long-term effects on vocabulary mastery, assessing possible differences in efficiency among age groups or ability levels, and offering guidance on optimal ways to integrate wordwall.net for educators considering utilizing it in the classroom. These suggestions aim is to support Wordwall.net's continuous growth and intelligent use as an ICTbased learning media.

Discussion

This study aims to investigate the effectiveness of using wordwall.net as an ICT-based learning media to improve the vocabulary mastery of seventh-grade EFL students in one of public junior high schools in East Java, Indonesia. This study was focused on a specific class that was selected on purpose due to its talented students who are also demonstrated a noticeable lack of motivation when compared to the other students in all seventh-grade classes, as the result of the class observations. Before the treatment was put into practice, which required the utilization of wordwall.net during the learning process in the EFL classroom. The most important aspect of the study's results is the clear differences in the average scores of the students pre-test and post-test results. This differences supports the claim that the use of wordwall.net results in a noticeable improvement in the area of students' vocabulary mastery. Referring to the questions being addressed in this study, the researchers found out that there are significant improvements in student's vocabulary mastery after using wordwall.net and that they gain a higher score compared to only utilizing the traditional teagching method and media in the classroom.

The first finding of this study reveals the significant improvement in students' vocabulary mastery after using wordwall.net as an ICT-based learning media during the learning process in the EFL classroom. The complexities of this improvement are numerous and result from a combination of factors. One significant contributor of this development is the thoughtful application of wordwall.net, which serves as a powerful stimulus and preventative measure against the dangers of teaching boredom (Rahman et al., 2023). The vast range of gamified modules that are inherent to this virtual learning environment acts as a cure-all, generating increased excitement for the learning process, which in turn reduces boredom and increases students' motivation. The increase in students' motivation in learning, therefore leads to an easier assimilation of the teaching material and a clear comprehension of the subject matter. This study finding is in line with the previous study conducted by Az Zahrah & Anwar (2023), whose empirical results highlight the positive effect of wordwall.net in enhancing students' lexical proficiency by increasing motivation and reducing academic boredom. In addition, another previous study conducted by Shabrina & Taufiq (2023) agreed that the utilization of wordwall.net in EFL classrooms can enhance students' vocabulary mastery. They stated that this online learning media promotes interest and active participation in the learning process. A true symphony of gains in vocabulary mastery is fostered by the complex dance between enhanced students involvement and comprehension of the disseminated content.

The second finding of this study highlights the notable differences in the seventh grade students' vocabulary mastery following the use of wordwall.net as an ICT-based learning media in comparison to the traditional teaching media, time-tested teaching tools used in EFL classrooms. Previous study conducted by Alpatikah (2022), claims that Indonesian education currently employs traditional methods and media in the process of teaching and learning, where students only listen and write the teacher's explanation without being actively involved in discussions. As a result, students' vocabulary mastery was detected to be somewhat limited due to the roles of auditory reception and transcription. On the other hand, the researchers find out that students' vocabulary mastery significantly increased after utilizing wordwall.net in EFL classroom. These improvement can be seen by an increase in students' average pre-test score of 57.03 to an average post-test score of 77.34, indicating the effectiveness of wordwall.net. This empirical proof is in line with the previous study findings conducted by Çil (2021) and Jannah & Syafryadin (2022), who both empirically explained the beneficial effects of wordwall.net on enhancing junior high school students' vocabulary mastery in comparison to classrooms that only use traditional teaching method. Furthermore, a study on pre-service EFL teachers' perceptions on the use of wordwall.net's conducted by (Rodríguez-escobar et al., 2023) discovered that wordwall.net is regarded as highly beneficial for vocabulary instruction and learning as well as providing feedback that goes beyond conventional approaches.

The research findings corroborate previous studies, illustrating a clear linkage between enhanced vocabulary mastery and the heightened motivation and enjoyment students experience when engaging with wordwall.net, an ICT-based learning platform, as opposed to traditional learning methods. The intrinsic appeal of wordwall.net lies in its integration of various game-like features, which serve as a dynamic stimulant that simplifies and enriches the learning experience. This innovative approach to learning transforms the process into an engaging and interactive journey, effectively mitigating the monotony that often accompanies conventional educational methods. Consequently, this not only sustains the students' interest but also fosters an environment that is conducive to effective learning. The significance of integrating technology in education, particularly through platforms like wordwall.net, extends beyond mere entertainment. It taps into the motivational drivers of students, leveraging the engaging nature of games to facilitate deeper learning and retention of vocabulary.

The digital platform provides a multifaceted educational experience, combining the allure of gaming with the rigor of academic learning, thereby enhancing student engagement and motivation. This strategic amalgamation of motivational enrichment and technological support plays a pivotal role in the narrative of students' vocabulary enhancement. It underscores the transformative potential of ICT in education, demonstrating that when students are more motivated and enjoy the learning process, they are likely to achieve better outcomes. This phenomenon reflects a broader educational paradigm shift towards learnercentered approaches, where technology acts as a bridge between academic objectives and student engagement, ultimately contributing to the elevation of learning outcomes, specifically in the realm of vocabulary mastery.

CONCLUSION

The results of this study highlight the significance of incorporating innovative teaching media by utilizing wordwall.net as the ICT-based learning media to enhance student's vocabulary mastery. Referring to the pre-test and post-test result, the utilization of Wordwall.net could improve vocabulary mastery of a 7th grade junior high school student in east java. The difference in mean scores before and after the treatment using Wordwall.net given, were used to support this assertion. The results of the study show that utilizing wordwall.net as an ICT-based learning media in the EFL classroom greatly improves students' vocabulary mastery. The fact that wordwall.net offers a wide variety of activities has increased student interest and decreased the boredom of students during the teaching and learning process, is the important aspect contributing to this improvement.

In addition, this study also highlights how vocabulary mastery in EFL classrooms after utilizing wordwall.net as the ICT-based learning media has significant differences from using only traditional media. This result confirming wordwall.net's gives beneficial effect in student's vocabulary mastery of the 7th grade junior high school students. In keeping with the first finding, the researchers suggests that this improvement is due to the increase of student enthusiasm and motivation, which are fostered by the immersive features offered by wordwall.net as the ICT-based learning media. Students consequently acquire a greater comprehension of the material, which contributes to a significant improvement in their vocabulary mastery. As an ICT-based learning media, Wordwall.net has effectively improved students' vocabulary mastery while also making the teaching and learning process become enjoyable compared to the utilization of only traditional methods and media in the EFL classroom, as the study concludes.

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