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Potential of multimedia resources for English vocabulary improvement

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Abstract

Vocabulary is a fundamental component of learning and mastering the English language. Multimedia resources can be used to help students learn and practice their vocabulary. With the help of multimedia resources, students can access visual and audio aids that enable them to better understand words and their meanings. This research aims to analyze the potential of multimedia resources to improve English vocabulary, specifically to support students with vocabulary learning when studying English as a second language. This research is descriptive documentary, based on the search, retrieval, critical analysis and interpretation of secondary data, a qualitative approach was used to evaluate the effectiveness of multimedia. The literature review shows that such resources are optimal for vocabulary acquisition and motivate students, who tend to have a favorable opinion of their use in the educational environment. It is concluded that research has shown that the use of multimedia is advantageous for students and most of the studies reviewed consider that students use these multimedia resources to expand their vocabulary.

Keywords: Multimedia; teaching method; English vocabulary; learning; students.

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Potencial de los recursos multimedia para mejorar el vocabulario en inglés

Resumen

El vocabulario es un componente fundamental para aprender y dominar el idioma inglés. Los recursos multimedia se pueden utilizar para ayudar a los estudiantes a aprender y practicar su vocabulario. Con la ayuda de los recursos multimedia, los estudiantes pueden acceder a ayudas visuales y de audio que les permiten comprender mejor las palabras y sus significados. Esta investigación tiene como objetivo analizar el potencial de los recursos multimedia para mejorar el vocabulario en inglés, específicamente para apoyar a estudiantes con el aprendizaje de vocabulario cuando estudian inglés como segundo idioma. Esta investigación es descriptiva documental, basado en la búsqueda, recuperación, análisis crítico e interpretación de datos secundarios, se empleó un enfoque cualitativo para evaluar la efectividad de los multimedia. La revisión de la literatura muestra que dichos recursos son óptimos para la adquisición de vocabulario y motivar a los estudiantes, que tienden a tener una opinión favorable de su uso en el entorno educativo. Se concluye que la investigación ha demostrado que el uso de multimedia es ventajoso para los estudiantes y la mayoría de los estudios revisados consideran que los estudiantes al usar estos recursos multimedia expanden su vocabulario.

Palabras clave: Multimedia; método de enseñanza; vocabulario inglés; aprendizaje; estudiantes.

Introduction

The opportunities for people to have language skills, through a broad and diversified vocabulary in the face of the transformation processes that are taking place in the world, account for effective communication, which seeks greater precision and accuracy, in the sense of new possibilities for exchange and relationship, however, developing a good vocabulary in English can be difficult and time consuming. Fortunately, the advent of new multimedia technologies has made it more accessible and engaging (Bríñez, 2021; Bernate & Fonseca, 2023). With the help of multimedia resources, learners can now improve their English vocabulary more efficiently and effectively (Shulner-Tal, Kuflik & Klinger, 2023).

Acquiring competencies and skills through second language proficiency is a personal endeavor, learners in their learning system vary their backgrounds, cultures, and social identities. Also, globalization has raised the influx of students in schools and

universities that have language as a second language programs, usually from other cultures and ethnicities (Widodo & Slamet, 2021).

Therefore, a traditional approach to vocabulary enhancement for students learning English as a foreign language remains questionable due to its uniformity in the face of the diversity of students' learning needs from the learning territories (Merz & Ackermann, 2021). Evidence shows that the use of multimedia has the potential to boost learning skills and processes (Butova et al., 2019). This background information warrants an investigation into the prospective impact of multimedia on English vocabulary acquisition and retrieval for English as a second language learners.

English as a Foreign Language (EFL), has been studied and taught for centuries, with historical records of language teaching dating back centuries. In the modern era, the increasing demand for English language learning in the global economy has made it popular among both native and non-native English speakers. It is thus a complex and

multifaceted field, requiring knowledge of the language and the cultural context in which it is used.

EFL encompasses a variety of topics and subjects, including phonology, grammar, vocabulary, pronunciation and language acquisition. A key component is the ability to communicate with and understand native speakers of English effectively. To this end, programs often focus on developing communicative skills, such as speaking and writing. In addition, programs that teach English as a foreign language generally take a cross-cultural approach, emphasizing the importance of understanding the differences that may exist in learning and using English.

The teaching process for English language instruction is promoted through a combination of classroom instruction and independent study. Teachers can use a variety of teaching strategies in the classroom, including lectures, discussions, and role-play activities. Outside of school, students can engage in activities such as reading and listening to native English speakers, watching movies in English, and writing in English (Wen & Yang, 2020).

Therefore, this study aims to analyze the potential of multimedia resources to improve English vocabulary, specifically to support students with vocabulary learning when studying English as a second language. The need to generate studies on this topic is potential in the transformation processes that are taking place in this decade where new information and communication technologies become a central theme and the use of multimedia comes to make contributions in the search for new learning.

The study was carried out under the methodology of hermeneutic analysis and the techniques of observation, bibliographic review, in Scopus database. This research was descriptive-documentary (Hernández, Fernández & Baptista, 2014), based on the search for information, recovery, critical analysis and interpretation of secondary data, a qualitative approach was used to evaluate the effectiveness of multimedia.

1. Multimedia resources: Teaching and learning aids

In recent years' technology has become increasingly important in this field with many programs using online tools such as video conferencing and online language learning platforms. These technologies allow teachers to reach students around the world and provide them with access to a wide range of resources.

In general, English as a foreign language is a complex and multifaceted field of study, requiring knowledge of the language and the cultural context in which it is used. With the help of technology, programs can reach students around the world, helping them acquire the skills and confidence needed to communicate effectively in English.

Also, the incorporation of multimedia into learning has considerable theoretical basis, based primarily on the seminal work of Shiksha (2021), called the cognitive theory of multimedia learning. The theory encourages the use of a combination of media for teaching, highlighting how combined auditory and visual sources can facilitate deep learning.

The theory is based on the idea presented in cognitive load theory that the human mind processes information based on sensory, short-term and long-term memory (Shiksha, 2021). Information is processed and filtered extensively before being consolidated in long-term memory. The combination of auditory and visual media accelerates this process and ensures longer learning retention.

When considering multimedia, it is also important to break down the process of learning English vocabulary to build a basis for cross-assessment. To this end, the reflections of Shiksha (2021), are valuable, dividing the whole process of vocabulary development into discovery and consolidation. Discovery involves figuring out the meaning of a newly discovered word. For this purpose, you can rely on the strategy of determination, which involves trying to discover meanings without help, or on social theory, which involves receiving help from others to find the meanings.

The same strategies apply to consolidation, given the findings found from research, which refers to the potential of using social networks to help both in the determination and in the social strategies used to discover and consolidate relevant actions (Butova et al., 2019).

The existence of presenting sound arguments for the use of multimedia and promoting fluent vocabulary in English language learners (Chang & Lan, 2021), i.e. learning involves the combination of meta-cognition, cognition and social learning, while learning remains inseparable from the learner's memory, sound arguments are generated from the use of various media that in this decade begin to be used.

As a learning strategy, practice and repetition is essential for long-term language retention of a diversity of words. These theoretical ideas, combined with the growing pressure on teachers in the face of an increasingly diverse learning environment, emphasize the need for multimedia-assisted learning, which allows the learner to unleash his or her cognitive and metacognitive strategies at an optimal level.

2. Methodology

This research was based on secondary data, which is why it is a descriptive-documentary study, according to Hernández et al. (2014); likewise, a qualitative design was used to investigate the effectiveness of multimedia. The exclusion of the primary research was motivated by resource limitations, including the time it takes to recruit the relevant audience and obtain information (Kothari, 2004). Second, the adequate availability of relevant material from existing published sources made primary research redundant. Preferred secondary media for the study include journal articles from the Scopus database, to assess empirical evidence. Theoretical ideas were selected from the keywords of renowned researchers.

In this same sense, the qualitative

design was chosen since it allows a critical investigation, since the study adopts an open approach, taking into account all the possibilities that arise when evaluating the effectiveness of multimedia technologies. Qualitative designs allow for robust critical debate by creating margins for all relevant ideas that may arise during the research process (Sarnou & Sarnou, 2021). The case study strategy was employed to carry out the research, which involves the use of real life examples to support key inferences (Holiver, Kurbatova & Bondar, 2020; Gamage, Ayres & Behrend, 2022).

In the same way, a quick review was applied to a wide range of published documents and available through academic sources, to expose the empirical evidence and carry out a synthesis between different studies in order to reach subtle inferences. Triangulation and synthesis are used to analyze the data by categorizing it with respect to emerging themes and intersecting the findings of different authors and researchers on the impact of multimedia on vocabulary learning.

Throughout the present study, a generally applicable code of research ethics was followed by keeping personal bias suspended and acknowledging all information borrowed from external sources.

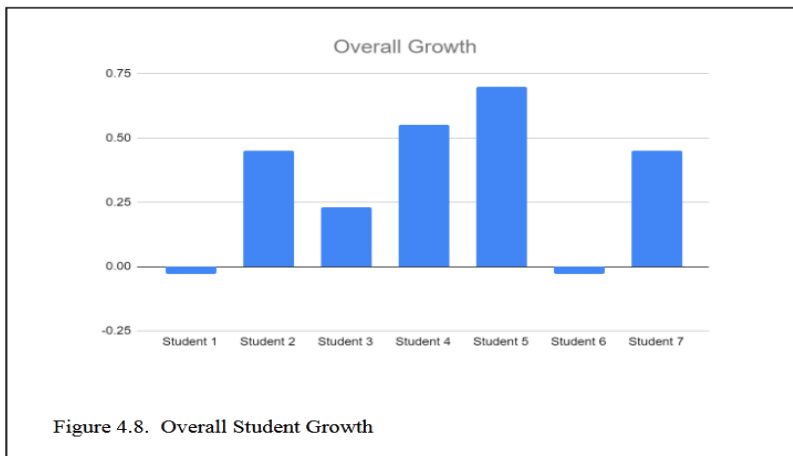
3. Use of multimedia: A look at the growth and motivation of students to learn Using multimedia to improve vocabulary in English

When examining the existing bibliography, it is verified that the use of multimedia to improve vocabulary has been debated focusing on multiple aspects, which mainly include the motivation of students to learn, the ability of teachers to adopt and use technology and, most importantly, the improvement of student performance results. All these key aspects are addressed in this section, since it assesses the impact of multimedia on improving students' vocabulary.

Shiksha's (2021) study offers revealing results on the use of multimedia to support learners of English as a second language. The researcher bases this study on his observation of the use of multimedia to help students learn English. The educational institute in question experimented with the use of Quizlet, an inclusive language processing tool that encourages stimulation in students.

The researcher found that the use of Quizlet contributed significantly to the ability

of the organizations running these training processes to cope with the challenges associated with the huge influx of students from diverse ethnic backgrounds. By implementing this tool under directed teachings strategies with a randomly selected group of seven students, it was found that there was a consistent improvement in post-test scores compared to the pre-test scores of the seven students. The general growth of students is displayed below in Graph I.



Source: Shiksha (2021).

Graph I: Overall Student Growth

The researcher found that the findings were in line with the essence of the Richard Mayer Theory (2005), which proposes multimedia learning specifically that presents information in text and images, based on the idea that there are three types of memory storage (sensory memory, working memory and long-term memory), from this research the students significantly improved their vocabulary through the use of multimedia (Mayer & Moreno, 2003).

Strategies used to discover what newly found words mean included dictionary lookup and social learning (with the help of peers and teachers), while retention or consolidation

of meanings was achieved through social strategies (consultation with friends, students, and teachers) and the use of various multimedia applications. Most students reported that the use of multimedia was significantly helpful in both stages: discovery of new words and consolidation.

Similarly, interviews were used to assess qualitative behaviors, which showed a considerable improvement in students' motivation to learn English vocabulary since the implementation of Quizlet. In this sense, the general motivation of students to learn is shown in the following Graph II

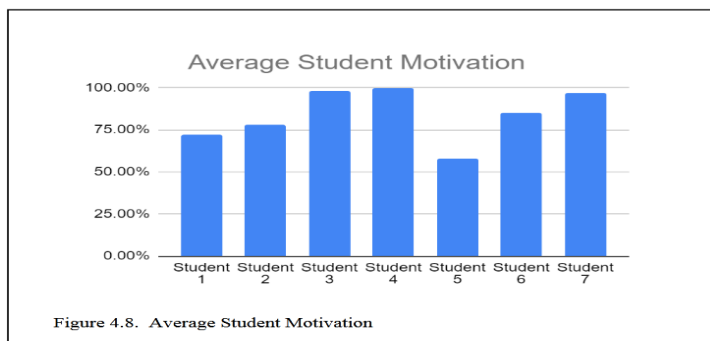


Figure 4.8. Average Student Motivation

Source: Shiksha (2021).

Graph II: Motivation to learn

Motivation remains high for all students; With the exception of first and sixth grade students, all students showed an improvement in performance and from the integration processes, specifically the improvement in English vocabulary is attributable to the use of multimedia.

Likewise, the improvement in English vocabulary is attributable to the use of multimedia in universities through the use of pre-test, post-test and retention tests that were carried out together with the questionnaires to assess student perception (Simplilearn, 2023).

In addition, scientific academics have generated research that supports the present study from the theoretical and practical point of view; in this sense, Holiver et al. (2020), who support these findings, evaluating the potential of combining explicit vocabulary learning with multimedia in their experimental research. The experimental group of 20 students was compared with the control group consisting equally of 20 students at the end of the experiment; After obtaining the post-test results, it was found that the experimental group performed better than the control group, not only in vocabulary development, but also in terms of improving cognitive skills and memory, which contributes to rapid acquisition and retention of words.

Another study such as the one

generated by Putri et al. (2020), also offers practical implications, with the sample size being comparatively crucial, which is 125 universities focusing on Chinese students and referring to the English language. The study compares four instructional models, including (a) definition, word information, and audio; (b) definition, word information, and video; (c) definition and word information; and (d) definition only.

In the same, they conducted pre-, immediate post, and delayed post-tests to assess both acquisition and retention of new vocabulary; while they conducted surveys to get a sense of students' perception of each model. The findings indicate that the performance results of the first intervention (definition, information, and video), were significantly higher than other options. Student perception of the first model was also consistent with the test results, therefore, the study vindicates Mayer's theory of multimedia, highlighting the importance of combining auditory and visual aids in learning.

Similar studies have also been conducted comparing single- and double-gloss modes to assess the impact of multimedia on vocabulary acquisition and delayed recall of learners (Sinaga & Pustika, 2021). The findings of this study also align with the cognitive theory of multimedia, as students' post-tests and delayed

post-tests evidenced superior performance, for the dual glossing mode (Sileyew, 2019).

However, some tests also revealed positive performance results for the single-glossing mode. In general, learners showed a better attitude towards adopting the dual-gloss mode than the single-gloss mode. Other studies have also supported these results, showing the importance of multimedia for English vocabulary acquisition and delayed recall (Umek et al., 2017; Sileyew, 2019).

Finally, all these findings imply that multimedia promises positive outcomes for English vocabulary learners if incorporated into the learning environment. The improvement in cognitive abilities is indicative of the enthusiasm shown by the students towards the use of multimedia. It is crucial to minimize the impact of each multimedia tool, and rather it is important to focus on its ability to facilitate English vocabulary acquisition for learners. Holiver et al. (2020), conducted valuable research with the Korean Students' Association in this area, who learn English vocabulary. The researchers studied the importance of social networks as a learning tool and their potential to be integrated into the learning environment (Shiksha, 2021).

The findings revealed that social networks contribute significantly to both language acquisition and retention for learners of English as a foreign language. However, the researchers emphasize the need for further research and the use of different terminologies for social networks, considering their integration with other media, as their negative connotations hinder their implementation by practitioners. Other studies have also found social networks to be an effective tool for improving English vocabulary learning (Jeong, 2017; Septyani, Purnamika & Wedhanti, 2021).

When considering the use of social networks, it is important to reflect on the research of Athaya et al. (2021), focused on the case of university students using WhatsApp to receive annotations for English vocabulary. The study's findings are consistent with cognitive multimedia theory in comparing

annotations sent in various formats (e.g., visual and auditory versus visual only). It was found that the combination of multiple formats had a strong impact on vocabulary acquisition in the given context. At the same time, the use of WhatsApp to send and receive annotations was found to remain a potential source for improving students' vocabulary.

Students have also shown a positive attitude towards the integration of WhatsApp in the learning environment. However, like Jeong (2017); and, Khairani & Rajagukguk (2019), they also do not rule out the risks associated with the use of social networking in the learning environment and indicate the need for more research before taking a decisive action.

Meanwhile, Kanellopoulou, Kermanidis & Giannakouloupoulos (2019) have investigated the effectiveness of captioning as a mode of English vocabulary learning for students. The researchers conducted a meta-analysis on the assumption that the existing literature does not sufficiently address the impact of multimedia on vocabulary learning, since most studies focus on a small sample, most multimedia technologies have generally not been as effective as presented.

However, they found compelling evidence for the effectiveness of captioning in aiding vocabulary learning. Standard captioning was found to be effective in facilitating general comprehension; while bimodal captioning imparted consolidation, retention, and recall. Reverse subtitles were useful in language encoding. Thus, the three types of subtitles have distinct implications, creating a strong case for exposing students to each.

Khairani & Rajagukguk (2019); and Sarnou & Sarnou (2021), have also contributed significantly to the literature, by evaluating the implications of different types of subtitling on Chinese learners' English vocabulary comprehension, experimented with four different types of subtitles, including dual subtitles, English subtitles, Chinese subtitles, and no subtitles for TED videos with 272 intermediate and advanced English

learners of Chinese (learning English as a foreign language). The findings suggest that the dual subtitle and no subtitle modes had better performance results than other modes for intermediate learners.

In contrast, Chinese subtitles and the mode without subtitles for advanced learners remained more beneficial. The findings complement the research of Kanellopoulou et al. (2019) by indicating that while subtitle-related techniques have the potential to be integrated into the educational system, no single approach is generalizable. It is important to align options with educational levels. Therefore, more research is needed to determine the effectiveness of different captioning techniques with respect to educational levels.

Prasetya (2021), on the other hand, have focused on the benefits of using pictures in teaching vocabulary. The researchers applied a pre-experimental design to the case of a school, where a group of students was exposed to pictures as a learning tool. The findings suggest that student enthusiasm and motivation to learn improved from the use of pictures as a vocabulary tool. Similarly, post-test scores also revealed improved student achievement results. The importance of imagery as a tool that aids in vocabulary learning has also received considerable scholarly attention and is a widely accepted idea (Maulana & Lintangari, 2021; Prasetya, 2021).

The articles analyzed in the present study reveal that multimedia benefits vocabulary learning. It is also a potential source of motivation for learners as most of them have a positive attitude towards its incorporation in the learning system. Taking advantage of students' positive experiences and perceptions with multimedia is considered a great opportunity for educators. Educators should analyze the situation respective to them and properly implement the multimedia incorporation or change program.

Practitioners and policy makers should encourage research in this area, since technologies and media are diverse and their effects may vary according to students'

backgrounds and educational levels. Research can also look for the most up-to-date tools and technologies, such as OpenAI, which can serve as an important tool for educating students about English vocabulary. However, in doing so, educators and policymakers must use rigorous mechanisms and protocols to ensure that technologies facilitate learning and do not provide opportunities for academic misbehavior.

Conclusions

This article concludes that the use of multimedia, in general, is beneficial for English language learners who want to improve their vocabulary. Most studies indicate that learners also perceive multimedia use positively as an aid to vocabulary learning. Teacher preparation and ability to harness the potential of multimedia is an important moderating factor, which implies that teachers should research and acquire adequate prior knowledge of the intended tools and technologies. All key technologies and media, including social networking, captioning, pictorial presentations and video explanations, are effective.

The study also supports Mayer's and cognitive theory's claims about combining visual and auditory sources to maximize the potential of the given instructional design. Aside from the direct implications for vocabulary acquisition and retention, the research demonstrates that increased motivation, enthusiasm, and improved cognitive and social skills are key byproducts of multimedia-assisted vocabulary learning.

Differences in the effectiveness of different tools, technologies, and methods are also crucial, as they imply the need for further research to determine the effectiveness of each mode, technique, and medium for a specific educational level or identical group of learners.

Although the study presents convincing evidence of the effectiveness of using multimedia to support English vocabulary learning, it is limited in scope in addressing the topic at hand. Future research work can use

it as a basis for imparting knowledge relevant to more specific dimensions of multimedia-assisted vocabulary learning and acquisition. It is also advisable to sample and interview learners as well as teachers to obtain their perspectives on the use of technologies and possible improvements.

Finally, improving English vocabulary is an important skill for anyone wishing to communicate effectively in English. Extensive reading, use of online resources, writing, learning prefixes and suffixes, word games, and conversations with native English speakers are effective methods of becoming familiar with the language. With a little dedication and effort, anyone can increase their English vocabulary.

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