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TEMA:

ARTIFICIAL INTELLIGENCE AS A DIGITAL TOOL TO IMPROVE
LISTENING SKILLS IN ENGLISH AS FOREIGN LANGUAGE

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RESUMEN

El propósito de este trabajo fue evaluar la efectividad del uso de las aplicaciones con inteligencia artificial en el proceso de aprendizaje del idioma inglés para mejorar la habilidad de escuchar. Para ello se escogió la aplicación llamada Lyricstraining que ofrece actividades con canciones para escuchar y completar la letra de la canción escogida. Los niveles van desde un nivel básico hasta un avanzado, la facilidad y flexibilidad de la aplicación permite personalizar la práctica.

Para la recolección de datos, la muestra fue tomada de 16 estudiantes del primer año del Instituto "Universitario 17 de julio" a quienes se les aplicó una evaluación diagnóstica y en 3 semanas una segunda evaluación la que comprobó la hipótesis de que el uso de la aplicación mejoró la habilidad de escuchar. Además, el uso de las canciones también cambió la actitud de los estudiantes frente a la adquisición del idioma. Con esto concluimos que nuestro estudio arrojó un resultado favorable con respecto a los beneficios de usar tecnología con inteligencia artificial.

PALABRAS CLAVES: canciones, aplicación Lyricstraining, inteligencia artificial, habilidad de escucha, aprendizaje del inglés.

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ABSTRACT

The purpose of this work was to assess the effectiveness of using artificial intelligence applications to improve listening skills during the English language learning process. For this purpose, we chose an application called Lyricstraining, which provides the activity of listening to a song and completing the lyrics of the selected song. Levels range from basic to advanced, and the simplicity and flexibility of the app allow for personalized practice.

For data collection, a sample of 16 first-year students of the "Universitario 17 de Julio" institute was taken, who had a diagnostic assessment and a second assessment within 3 weeks, confirming the hypothesis that listening skills improve with the application. In addition, the use of songs also changes students' attitudes towards language learning. From this, we conclude that our research has achieved good results regarding the benefits of using artificial intelligence technology.

KEYWORDS: songs, Lyricstraining application, artificial intelligence, listening skills, English learning.

1. INTRODUCTION

General Objective

To assess the effectiveness of using artificial intelligence applications to improve listening skills in the English language.

Specific Objectives:

To evaluate the improvement of students´ listening skills at ¨Universitario 17 de Julio¨ through the use of the Lyricstraining application by conducting pre- and post-assessment tests.

INTRODUCTION

In today's interconnected world, English proficiency is critical to academic, career, and social success. Of the four most important language skills (listening, speaking, reading and writing), listening is the foundation of effective communication. However, many EFL learners struggle to develop listening skills due to factors such as limited exposure to authentic English input and lack of interactive learning opportunities.

The purpose of the proposed study is to assess the application of interactive activities (AI) can be used as an effective teaching method to improve English language learners' listening skills. AI includes teaching methods that actively engage students in the learning process through hands-on activities and interaction with authentic audiovisual materials.

By assessing the impact of AI on the development of listening skills, this study aims to provide valuable insights into improving current teaching practices and curriculum development in English language education. The following reasons emphasize the importance of in-depth research on this topic:

Importance of teaching:

By examining how AI can effectively improve listening skills, educators and curriculum developers can adopt evidence-based strategies that increase student engagement and promote active learning. This study can make a significant contribution to teaching practices that prioritize the development of effective communication skills.

A teacher-centered approach:

By focusing on interactive activities specifically designed to improve listening skills, this study recognizes students' needs by providing opportunities for active participation rather than limiting instruction to passive comprehension tasks or traditional lectures.

Real World Applicability:

Listening is an essential skill not only in educational institutions, but also in real-life situations such as the professional workplace or social interaction. By improving students' ability to understand spoken English through interactive activities, they can gain important practical communication skills needed for future success.

Methodological achievements:

This study will use quantitative and empirical research methods such as pre-test, post-test or control groups to ensure methodological rigor and provide robust evidence. Using these research designs, we aimed to accurately measure the impact of Lyricstraining applications on students' listening skills at the Universitario 17 de Julio. In addition, this approach will allow us to collect reliable data that can support meaningful conclusions about the effectiveness of using Lyricstraining to improve listening skills.

2. THEORETICAL FRAMEWORK

2.1 English teaching in Ecuador.

It has become indispensable to have a second language or at least to possess an intermediate level at it. The English language in Ecuador is fundamental within the educational system and not only in this country. It has turned into an important language worldwide to the point of currently being known as the so-called "universal language". According to Smitha N. y John P. (2020) The Old, Middle and Modern English has the influence of language families such as the Germanic where the modern English was formed from the dialect spoken by their tributes (p 6.)

The research made by the "El Comercio" diary (El déficit de profesores de inglés es un problema que viene desde 1950, 2014) the history of the English Language in Ecuador data since the 90s. In 1912 for the first time it was brought into a classroom as a signature, yet it was not until almost 40 years later that it was included in the National curriculum. In response to this situation, an innovative and challenging Curriculum Reform was launched by the Ministry of Education of Ecuador; it will also contribute to the development of the learning process of English which was labeled as CRADLE in July 1992. The campaign was addressed to secondary schools throughout the country. With the objective to develop students' knowledge of English. and ensure that they achieve a B2 level in English upon graduation.

2.2 Listening Skills

Regardless of the subject or field of study, listening skills are crucial to communicate. Good listening skills enable students to understand and follow instructions effectively. Whether it is homework instructions, lectures, or teacher explanations and other spoken texts, being able to listen carefully helps students understand information accurately.

Active listening allows students to absorb information from a variety of sources, such as teachers, classmates, guest speakers, or audio-visual materials. It helps to acquire new knowledge and deepen understanding of various subjects. Moreover, effective listening allows students to analyze and evaluate the information presented in a discussion or debate,

thereby promoting critical thinking. This allows them to build a reasoned argument based on what they hear.

Listening is essential when interacting in the real world, whether in our mother tongue or in a second language. Listening is a fundamental aspect of effective communication (Creswell, 2014). It allows individuals to understand and respond to verbal messages accurately, leading to successful interactions and relationships. Effective communication involves not only expressing oneself clearly but also understanding others' perspectives, ideas, and emotions. Listening allows individuals to process information accurately and respond thoughtfully, leading to successful interactions and relationships.

Listening is necessary when resolving conflicts, both in the educational setting and in the real world. For this, it is important that students have a good understanding. Active listening plays a crucial role in problem-solving by ensuring that all relevant information is gathered before making decisions or finding solutions (Thompson & Phillips-Jones, 2017). When individuals engage in active listening, they are better able to understand the perspectives, concerns, and ideas of others, which is essential for gathering all relevant information before making decisions or finding solutions.

2.3 Artificial intelligence

For several decades, we have been experiencing the impact of technology in different areas of human life. Of course, the field of education is one of the most influential. "The technology is concerned with building intelligent entities, capable of computing how to act effectively in a wide variety of novel situations, by perceiving, understanding, predicting and manipulating a complex external world (Russell & Norvig, 2022: 19).

This entire technological revolution has been in constant change, creating increasingly sophisticated tools every day. The objective of this article is to look at the existing literature on the use of artificial intelligence that supports it. "Artificial intelligence is one of the branches of computer science that has aroused the most interest today, due to its enormous field of application" (Ponce J. and others. 2014: p. 15)

Artificial intelligence has led to the emergence of new tools such as innovative applications that, despite having existed for a few years, have been shown to enhance many aspects of education. Artificial intelligence offers the potential for an adaptive and personalized learning process so the integration of AI makes available many possibilities for fostering the skills when they are not exposed to the environment where they can practice. Additionally, the use of AI and its effectiveness with the skills promotes learners' autonomy because learners can access the resources and receive feedback as a result, the learners can acquire long term language proficiency. Feedback personalization based on student profiles also makes the message more relatable to students (Pechenizkiy et al., 2008; Ray & Saeed, 2018).

Finally, a comprehensive exploration of the role of AI in developing English language learners' communication skills contribute to the educators and researchers about the potential benefits associated with the integration of AI tools.

2.4 Language Exposure.

When a student is learning a new language, exposure to the language plays a very important role. People learn a language because of the communicative need. "When learners are more exposed to spoken English, they can more know and get used to its pitch, intonation, stress, redundancy, and clusters" (Gilakani, 2016, p.1971). For example, when a person moves to a country where a different language is spoken, he or she learns to speak that language out of necessity and exposure to it. However, to speak a foreign language wouldn't be possible if listening skills hadn't been acquired first.

2.5 Language acquisition

According to Krashen (2022) "the language acquisition happens automatically by listening". Hence, listening skills are considered extremely important to acquire a language because it is the receptive ability that the learners use when their learning process is beginning.

2.6 Comprehension

It is very important that students learn to acquire and analyze information, instead of storing it. "Comprehension includes perception, analysis and use. Perceptual processing is the encoding of auditory or written messages, including phoneme fragments, into continuous speech. A person pays special attention to the input, and the sound is stored in memory" (Gilakani, 2016, p.1971). In this way, students will be able to communicate effectively inside and outside of the classroom. To achieve this goal, tools must be implemented that help develop the learner's listening skills.

2.7 Input hypothesis

"The integrated input hypothesis states that acquirers must understand input language that contains structures beyond their current level of ability" (Krashen, 1982, p 10-32). Krashen's input hypothesis states that language acquisition occurs when learners are exposed to meaningful language input slightly above their current level of proficiency, leading to the natural development of speaking skills. Krashen believes that this type of input can help students internalize language rules and patterns without explicit instructions, ultimately improving their speaking skills.

2.8 Lyrics-training Application

Lyric Training is an engaging free educational technology resource that includes music videos in multiple languages, along with lyrics and advanced technology that tracks every word. The lyrics are written into the music video, which means that each user can find individual lines of lyrics on the 21 mobile screen, which will gradually scroll up from the bottom as the video plays (Quisnia, 2020, p.20).

2.8.1 Instructions of the game.

There are four levels of difficulty on this platform: beginner, intermediate, advanced and expert. For better performance, it is recommended that the student starts playing at the beginner level. Once the student has passed the intermediate level and has become familiar with the lyrics of the song, he or she can move on to the next level.

2.8.2 Beginner level:

"Users with less advanced vocabulary can choose the beginner level and start filling in the missing 39 words out of the 385 words in each music video" (Quisnia, 2020, p.21).

2.8.3 Intermediate level:

"Users with sufficient vocabulary and listening skills can choose the medium level to complete the missing 75 words out of the total 385 words in the lyrics" (Quisnia, 2020, p.21).

2.8.4 Advanced level:

"People with sufficient listening, vocabulary and writing skills can choose the highest level of the game to fill in the missing 148 words from the movie's 385 words" (Quisnia, 2020, p.21).

2.8.5 Expert level:

"People who excel in foreign languages and have developed skills in their chosen language can choose the Expert level to fill in the 385 missing words in the 385 song lyrics" (Quisnia, 2020, p.21).

Each time the student tries to play the game again, the missing words change randomly. To complete the missing words, the device's cursor is automatically positioned where the student needs to write each word, without the need to type spaces. If the student misspells a letter, the song stops until the player guesses correctly. There is a limit of misspells allowed to commit, the same one shown above. Each time the student makes a mistake, the number of errors allowed decreases.

3.   METODOLOGY

3.1 Research Study

As the topic of this research work contains two variables, the authors conducted an experimental research which is a study conducted with a scientific approach using two sets of variables. In this kind of research work, researchers can also collect detailed information

about the participants by doing pre-tests and post-tests to learn even more information about the process.

Experimental research can be both qualitative and quantitative according to the nature of the study. According to this research study, the authors applied AI tools, so it is considered to be an experimental-quantitative research work.

3.2 Quantitative research

Quantitative research allows researchers to measure and analyze numerical data using statistical techniques, allowing them to identify patterns and relationships in large data sets. "In quantitative research, statistical methods are used to measure and analyze numerical data, allowing us to identify patterns and relationships within large datasets" (Creswell 2011, p.101). This approach also facilitates the use of structured tools such as surveys or experiments to identify variables and test hypotheses. In this research, the quantitative analysis of the results can be carried out by applying the final evaluation after the students used the Lyricstraining application.

4. RESULTS ANALYSIS

N.	PARTICIPANTS	CORRECT ANSWERS	INCORRECT ANSWWERS	TOTAL
1	STUDENT 1	7	13	20
2	STUDENT 2	8	12	20
3	STUDENT 3	12	8	20
4	STUDENT 4	9	11	20
5	STUDENT 5	13	7	20
6	STUDENT 6	8	12	20
7	STUDENT 7	14	6	20
8	STUDENT 8	10	10	20
9	STUDENT 9	9	11	20
10	STUDENT 10	13	7	20
11	STUDENT 10	15	5	20
12	STUDENT 12	10	10	20
13	STUDENT 13	8	12	20
14	STUDENT 14	9	11	20
15	STUDENT 15	9	11	20
16	STUDENT 16	11	9	20
TOTAL		165	155	320

Table 1: Results of the diagnostic test.

Table 2: Analysis of the results of the diagnostic test.

Range	Level	Coincidence
17-20	Excellent	0
13-16	Very good	1
9-12	Good	10
5-8	Regular	5
1-4	Insufficient	0

Firstly, we have chosen a population of 16 students of the beginning English level who rolled in the first academic year of the "Universitario 17 de Julio" Institute. Of the 16 students, we do not have any who got an "excellent" score in the listening skill activity. Next, we have 1 student who is in the "very good" range. Then, there are 10 students with "good" results. Then, 5 students have "regular" results and finally, there are no students with an "insufficient" result.

Above results let us know the current level using the Lyricstraining app to develop the listening skills. These initial results will be useful to compare with the results after using the Lyricstraining app for 3 weeks. This study looks for demonstrating how useful the applications to develop and improve the listening skills are.

Final results after 3 weeks of contact of students with the Lyricstraining application:

N.	PARTICIPANTS	CORRECT ANSWERS	INCORRECT ANSWWERS	TOTAL
1	STUDENT 1	12	8	20
2	STUDENT 2	9	11	20
3	STUDENT 3	12	8	20
4	STUDENT 4	10	10	20
5	STUDENT 5	14	6	20
6	STUDENT 6	14	6	20
7	STUDENT 7	16	4	20
8	STUDENT 8	12	9	20
9	STUDENT 9	13	7	20
10	STUDENT 10	17	3	20
11	STUDENT 10	18	2	20
12	STUDENT 12	12	8	20
13	STUDENT 13	13	7	20
14	STUDENT 14	13	7	20
15	STUDENT 15	14	6	20
16	STUDENT 16	12	8	20
TOTAL		201	119	320

Table 3: Results of the final test.

Table 4: Analysis of the final test.

Range	Level	Coincidence
17-20	Excellent	2
13-16	Very good	7
9-12	Good	7
5-8	Regular	0
1-4	Insufficient	0

Figure 1: Final results analysis.
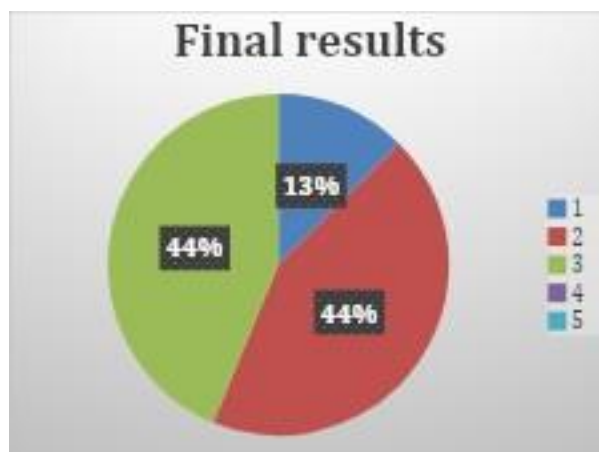
The chart below shows the data collected after applying an evaluation to know the effectiveness of the Lyricstraining Application to the control group after 3 weeks of practice using it. In first instance, the data collected reflects that the student's listening skills have improved significantly. In regards to the level excellent, the twelve percent of the participants show that have increased their listening skills. On the other hand, the 44 percent have reached a very good level. In the same way, the 44 percent remaining have acquired a good level in terms of listening skills.

5.   DISCUSSION

The present research aimed to demonstrate the use of IA tools to improve the listening skills in the 16 students of the "Universitario 17 de Julio" Institute with the results of the pre-test we could prove the need for these students to improve their listening skills. Our research findings imply that applying this app with the classroom improves the listening skills of the students.

These results were collected through a pre-test assessment which gave us a better understanding not only of the lack of the listening skills yet all the others skills. According to Lane, Grover, & Roschelle (2008) Artificial intelligence is becoming increasingly integrated into people's daily lives, including in the education sector, both in educational institutions and in the education sector in general. With our result there was an improvement in the results after using the app Lyricstraining with the students.

Besides our positive results, it is important to mention some limitations we faced while applying the app. The lack of motivation in some students is linked to some of the final results since we had a difficult time making them use the app frequently. Also, the short time, we just had 3 weeks with the students.   Therefore, it will be planned for future research studies to extend the time of use of tools. Despite the time factor, there was a good response from the majority of the students. It is considered that with a better schedule and working plan, we can obtain better results.

6.   CONCLUSIONS

This research work helped to conclude that the use of AI applications in the selected group of 16 students at the "Universitario 17 de Julio" Institute has proven to be a valuable resource for improving listening skills in a short period of time. AI tools as Lyricstraining offer personalized practice, immediate feedback, and the ability to interact with various accents and communication styles.

The final results obtained by the use of Lyricstraining application showed a significant improvement in listening comprehension, suggesting that the incorporation of these technologies can be an effective and efficient strategy in the development of listening skills. Additionally, students manifested positive attitudes towards using the Lyricstraining app for English listening. Most of the results stated that the AI app was favorable because of the accessibility and flexibility.

This study was applied in a short term, for that reason, as a suggestion, it is important to consider a long-term analysis to evaluate sustained impact and explore more possible areas for improvement. It can be concluded that teachers and students should be able to use Lyricstraining app inside and outside the classroom as an additional teaching material for self-study or homework and to learn with enjoyment.

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Espirales

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Presente

REF.: **ACEPTACION DE ARTÍCULO REVISTA ESPIRALES**

De mi mayor consideración. -

Por medio de la presente me dirijo a Ustedes para comunicarles que su artículo titulado: "Artificial Intelligence as a digital tool to improve Listening Skills in English as Foreign Language" luego de la evaluación de pares académicos ciegos y revisión de estilo, ha sido aceptado para publicación en Espirales Revista Multidisciplinaria de investigación VOL. 8 NO 52 enero publicada en 2025 con issn 2550-6862 Indexada Clase, ErihPlus, EBSCO Information Service Fuente Académica Plus, Scientific Indexing Service, International Innovative Journal Impact Factor, Latindex catálogo-folio 26456, REDALYC, DIALNET, MIAR, MIAR, REDIB, Actualidad Iberiamericana entre otras.

Queremos extenderle un reconocimiento por los esfuerzos evidenciados en su artículo y le ofrecemos nuestra más cordial invitación a continuar contribuyendo con la producción del conocimiento científico.

Osbaldo Turpo Gerbera

Editor en Jefe

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