What are the possible effects that background music can have on the reading and speaking skills as well as in the motivation of first and second semester students of the bachelor's degree in foreign languages at the Universidad Industrial de Santander?

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Trabajo de Grado para Optar al Título de Licenciado en Lenguas Extranjeras con Énfasis en inglés

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Table of Contents

List of Tables

List of Figures

List of Appendices

Glossary

AS units: a single speaker's utterance consisting of an independent clause or subclausal unit, together with any subordinate clause(s) associated with either.

Background Music: music of any kind that is played while some other activity is going on, so that people do not actively attend to it

Clauses: a group of words that includes a subject and a verb, and forms a sentence or part of a sentence.

Control group: is the group in an experiment that does not receive the variable you are testing.

Correct Verb Forms: the production of language free of morphological, syntactic and word order errors.

Experimental group: it is the group that receives the variable being tested in an experiment.

Hypotactic Clauses: marked by the use of connecting words between clauses or sentences, explicitly showing the logical or other relationships between them

Paratactic Clauses: are clauses which have a dependent function on the main verb, serving as a complement to the main verb.

Quasi Experimental Research: aims to establish a cause-and-effect relationship between an independent and dependent variable.

Rate A: it is a measure based on the number of syllables in each narrative divided by the number of seconds used to complete the task and multiplied by 60.

Rate B: it is a measure based on a refinement of the analysis by excluding repeated, rephrased, reworded, substituted sentences and crutches, in order to concentrate exclusively on counting sentences that have relevant semantic content.

Summary

Título: What are the possible effects that background music can have on learning English as a foreign language?

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Palabras clave: Música de fondo, habilidades del lenguaje, oralidad, lectura, motivación

El papel de la música en el aprendizaje del inglés ha sido objeto de amplia discusión. En particular, el uso de música de fondo se relaciona con efectos positivos en las habilidades orales y de lectura, además de en la motivación. Sin embargo, no hay estudios en Colombia que corroboren dichos hallazgos. Por ende, diseñamos un cuasi experimento para analizar los efectos de la música de fondo en dichos campos en estudiantes de nivel pre-intermedio e intermedio de la Licenciatura en Lenguas Extranjeras de la UIS. Se contó con 52 participantes divididos en tres grupos de nivel pre-intermedio y dos de nivel intermedio, de los cuales un grupo por nivel fue asignado como grupo de control y los restantes como experimentales. Se le asignaron a los participantes cuatro guías, cada una compuesta por una prueba de lectura y una pregunta abierta que debían responder oralmente. Adicionalmente, se les proporcionó un cuestionario para examinar sus percepciones sobre los efectos de la música de fondo. Los resultados señalan que la música de fondo tuvo un efecto positivo en las habilidades de lectura. Con respecto a las habilidades orales, los efectos fueron más favorables en los grupos experimentales intermedios que en los pre-intermedios. Finalmente, las percepciones indican que la música de fondo promueve una mayor motivación en los participantes. Semejante a estudios similares, nuestra investigación recalca los efectos positivos de la música de fondo en las habilidades de lectura y oralidad además de en la motivación y compromiso en los estudiantes de inglés.

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Abstract

Title: What are the possible effects that background music can have on learning English as a foreign language?

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Keywords: Background music, language skills, speaking, reading, motivation

The role of music in English language learning has been widely discussed. In particular, the use of background music is related to positive effects on oral and reading skills, as well as motivation. However, there are no studies in Colombia that corroborate these findings. Therefore, we designed a quasi-experiment to analyze the effects of background music on these domains in pre-intermediate and intermediate-level students of the Bachelor's Degree in Foreign Languages at the UIS. There were 52 participants divided into three pre-intermediate and two intermediate groups, of which one group per level was assigned as a control group and the rest as experimental groups. Participants were assigned four guides, each composed of a reading test and an open-ended question to be answered orally. Additionally, they were given a questionnaire to examine their perceptions of the effects of background music. The results indicate that background music had a positive effect on reading skills. With respect to oral skills, the effects were more favorable in the intermediate than in the pre-intermediate experimental groups. Finally, perceptions indicate that background music promotes greater motivation in participants. Likewise, to similar studies, our research highlights the positive effects of background music on reading and speaking skills as well as on motivation and engagement in English language learners.

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Introduction

English is the language of the world. Its use is widespread across the globe. According to Rao (2019), "in the twenty-first century, the entire world has become narrow, accessible, sharable and familiar for all the people living on this earth as English is used as a common language" (p. 65). In addition, English is used as a lingua franca in different fields such as politics, economics or even in education. Referring specifically to the field of education, since a few years ago English has established itself as the main medium in various fields of education, besides being the only language in which books and journals are available in both electronic and printed formats (Rao, 2019, p. 73).

Due to its great importance it is present in the curricula of many schools in different countries, one of them, for example, Colombia. Nevertheless, its influence is not only present in schools but also in different educational institutions such as universities. At the Universidad Industrial de Santander, in Bucaramanga, Colombia, the Faculty of Human Sciences offers different degrees, among them the Bachelor's Degree in Foreign Languages with emphasis on English. From the beginning of this degree, students are involved in the development and use of pedagogical tools and methods, from playful activities to the use of digital tools such as videos or even music.

However, the information that exists in the Colombian context regarding research on music and even more on background music in the classroom is very scarce. For this reason, we consider it important to analyze this information in our context, such as the UIS in Colombia, as there is not enough information or research to support this information. For this reason, the research question on which our work will be based in is the following: What are the possible effects that background music can have on the reading and speaking skills as

well as in the motivation of first and second-semester students of the bachelor´s degree in foreign languages at the Universidad Industrial de Santander?

Throughout history, English language teaching has been approached in many ways. However, one of the most documented and beneficial for learning English is music. In specific, in regards to background music, many research articles point to various benefits such as improved reading and speaking skills or increased motivation to learn a foreign language. Nevertheless, there was not enough documentation on background music in Colombia. For this reason, we considered this research to be of great importance since the results derived from it would benefit English teachers in Colombia, more specifically in the city of Bucaramanga, providing them with the basis to use a tool that had been rarely implemented in the country so far, so that educators would be aware that it could start being included in the different classes of EFL in Bucaramanga.

Therefore, the general objective of this research was to examine the possible effects of background music on the reading and speaking skills as well as in the motivation of first and second-semester students of the Bachelor's Degree in Foreign Languages at the Universidad Industrial de Santander. In regards to the specific objectives, they were be the following: 1) to design a quasi-experiment that would allows us to analyze the effects of background music on English language learners, 2) to apply the quasi-experiment to first and second-semester students of the Bachelor's Degree in Foreign Languages at UIS, 3) to determine what effect the use of background music had on the participants' reading and speaking skills, and 4) to indicate the possible effects of background music on the motivation and engagement of the participants by collecting their different perceptions.

In order to address our research objectives, two main data collection tools were used. These were: 1) four reading guides focused on participants' reading and speaking skills and 2) two surveys designed to detail students' perspectives on background music and its use in

English classes. The results obtained in these tools showed data concerning their understanding of the tools used in class, as well as provided results on the different activities with respect to their English skills.

Regarding the order of presentation of this final report, our research is organized as follows: 1) we present the introduction and the general and specific objectives; 2) a theoretical framework is provided in which information on the definition of background music, clauses, previous studies useful for the development of this work, and the respective legal references are included; 3) the type of research used, the approach, the design, the population, the collection instruments, and the various sources are given; 4) we include the data analysis and results, which are divided into those related to communicative skills, those dealing with speaking skills and the different perceptions of the participants with respect to the quasi-experiment; 5) conclusions related to the activities and the results presented by the participants are specified, as well as the relationship with previous studies; 6) a series of recommendations are provided in order to complement the original research and to achieve more favorable results in future research related to our topic.

1. Objectives

1.1 General Objective

To examine the possible effects of background music on the reading and speaking skills and motivation of first and second-semester students of the Bachelor's Degree in Foreign Languages at the Universidad Industrial de Santander.

1.2 Specific Objectives

1) To design a quasi-experiment that allowed us to analyze the effects of background music on English language learners.

2) To apply the quasi-experiment to first and second-semester students of the Bachelor's Degree in Foreign Languages at UIS.

3) To determine what effect the use of background music had on the participants' reading and speaking skills

4) To indicate the possible effects of background music on the motivation and engagement of the participants by collecting their different perceptions.

2. Theoretical Framework

2.1 Definition of background music

The concept of background music or BM is not particularly new. There is evidence to suggest that it was already in use some decades ago. For example, in the 1970s, Lozanov (1978, as cited in Degrave, 2019) developed a methodology based on classical music called 'suggestopedia' to make learners more relaxed and receptive. However, despite their antiquity, these initiatives are were continued by recent research.

Based on more recent studies such as the one conducted by Degrave (2019) the definition of background music could be explained as the use of non-linguistic sounds in the learning process (p. 413). Further on, Velazco et al. (2023) described that it is was important to note that the results derived from the use of BM in the learners' English learning process may vary depending on some factors, which are: 1) The nature of the cognitive task. 2) The individual characteristics of the learner. 3) The nature of the BM.

Firstly, in terms of the nature of the cognitive task, according to the authors, the effects that background music could have varied depending on the task the learners were performing. While the results suggested that it can be beneficial for writing and reading activities, it also showed that it can be useful for memory tasks, although not at the same level (p. 4). Secondly, the results that can be obtained from playing and listening to background music can vary from person to person. In this regard, Velazco et al. (2023) mentioned certain characteristics such as age. BM had different effects depending on whether it was used with children, adolescents or adults.

While in children it might have promoted readiness or increased attention span, in adolescents it may be beneficial for acquiring new vocabulary or for engaging learners when used in the right way (p. 4). Finally, BM may have different effects depending on the type of BM used. For example, according to Bottiroli et al., 2014; Kumaradevan et al., 2021 as well as Velazco et al. (2023), the benefits of using classical music compared to other genres or no background music were greater. It was also important to consider other aspects, such as the duration of the BM intervention and whether it was used when studying (p. 5). In addition, the tempo (fast or slow) and mode (major or minor) of the background music was also crucial to consider (Xiao, Fanjie & Runzhi, 2019, p. 102).

2.2 Definition of Clause

As we were be dealing with the concept of clause throughout the research, it was important to have a clear idea of what its meaning is. The definition of a clause can vary depending on the author and many other factors. Nevertheless, for the purpose of this research, we will take into account the definition provided by Young (2015) in which he states that "a clause embodies a proposition; that is, an expression in language of some part of our experience of the world. Propositions are things that are capable of being asserted, or negated, or speculated about, or suggested as being desirable (p. 23). It is also relevant to note that a clause consists of different elements and combinations among them. For Young (2015), a clause must consist of a subject, a predicator and a complement (p. 25).

2.3 Previous studies

Moving from the more general information to the more specific and relevant to our research, there were numerous articles that mentioned the importance of songs in the acquisition of English as a foreign language. For example, the results of a study conducted by Al-Smadi in Jerash (2020) suggested that the use of songs in a foreign language class can increase learners' motivation and engagement with the class (p. 57). In this research, the author collected the different perceptions of two different groups of students as to how motivated they were to be in class and to carry out activities with and without the use of music. The results indicated that the group whose students listened to songs not only described that they liked the class more, but also that they were more motivated to participate in class.

The effects that songs could have had on learning English as a foreign language are very different from those of background music. It was therefore important to distinguish the difference. With regard specifically to background music, research suggested that its application could have been beneficial to the learner's language process. For example, in a

study by Ferreri, Aucouturier, Muthalib, Bigand and Bugaiska (2013), as well as in Degrave (2019), the use of background music is analyzed. Here, the researchers claimed that by conducting a neural analysis, the use of background music was useful for retrieving encoded material in verbal memory tasks, as it "helps verbal encoding by facilitating associative and organizational processes (p. 413).

This research carries out a neural analysis which supports the conclusions made by the author. However, it is important to clarify that we do not mean to imply that this particular study will take into account the analysis of these processes, as this would be very difficult. In addition, it would require a professional neurologist, aspects that make this alternative impossible in this research. Furthermore, the role of background music as a motivational factor is discussed in an article by Kang and Williamson (2013) where it is mentioned that it can positively affect students' mood and also provide psychophysiological arousal (p. 729). These assumptions are based on different research used by the author in his article such as the one published by Cassady and MacDonald (2007) in which through two five-point Likert-type questionnaires participants rated 40 pieces of music from different genres in terms of valence, arousal, aggression and relaxation values (p. 522).

In the EFL field, there are several studies that highlight the importance of background music in the development of different language skills such as oral expression and mainly reading. On the one hand, there are articles and research that highlight the importance that BM can have on learners' oral skills. Ashtiani and Zafarghandi (2015, p. 212) use the term non-verbal songs, in other words those that do not present any form of sounds or oral expression, and state that "The Findings of this study have pedagogical implications for language teachers to be more aware and knowledgeable of the benefits of verbal songs to promote speech production of language learners in terms of naturalness and fluency".

In addition, Varnosfaderani, Shahnazari and Dabaghi (2021) conducted a study on the possible effects that "happy" and "sad" BM can have on second-language speech compared to no background music in terms of complexity, accuracy and fluency. It is important to mention that regarding the naming of sad music and happy music, the participants themselves were the ones who decided which background music was sad or happy music by listening for 20 seconds and rating the feeling of sadness or happiness it evoked with a Likert scale ranging from 1 which was the highest level of sadness to 7 the highest level of happiness (p. 1201). In addition, as for the genre of music chosen for this study, music from different popular music genres were implemented among them such as jazz, classical music, rap, etc. The authors mention that the use of sad or happy BM increased the number of syllables present in each narrative and, more importantly, the number of meaningful syllables in each oral task, as well as a better use of verb forms (p. 1205). Also, the results indicate that students who listened to happy and sad BMs had more syntactic complexity than those who did not listen to BMs. It is the same case with errorless clauses, students with background music performed slightly better (p. 1205).

On the other hand, in terms of reading ability, there was also research and studies mentioning the positive effects that background music can have. In a research conducted with 57 Iranian EFL students, Sahebdel and Khodadust (2014) showed that there was a significant difference in reading comprehension test scores between students who listened to 10 sessions of Mozart piano sonatas and those who did not. The results derived from this research are of great importance because prior to the research, the students took a Preliminary English Test (PET) and the differences between the students' results were not significantly different at the time.

Moreover, a research conducted by Xiao et al. (2019) involved 19 female and 14 male graduate students. The research consisted of measuring the effects that different BM inputs

had on the participants while they performed a reading task. This task consisted of five passages. The first one contained no background music while the other 4 included background music in different forms varying between major and minor (mode) and tempo (fast and slow). While performing the activities in each passage, students had to answer questions about their mood using two 9-point likert scales, which were used to conclude emotional changes.

Despite the type of input, the results indicated that BM can improve different aspects of reading ability, such as learning performance, and generate positive effects on students' engagement (p. 104) and arousal and valence values during the reading task (p. 103). However, the four types of background music did not have the same effects. According to the authors (2019), the fast-tempo BM had a more positive effect on the students' engagement, arousal and valence values and on the time needed to answer the questions, while the slow-tempo background music had a slightly better result on the mean scores. This shows that music has a positive effect when applied to improve oral skills and reading ability.

2.4 Legal reference

Due to the handling of the information presented in our research mainly in the data collection process, this study is governed by Law 1266, 2008 and Law 1581 of 2012, on data protection. Although the information presented as input for our research is not personal information, it is still required to emphasize the use of the information collected. In accordance with the aforementioned laws, the personal information of the researchers is expressed to the participants as a form of contact to suppress any participation or to express the process and results of the research itself, if the participant so wishes. Similarly, those who wish to take part in the research will be provided with an informed consent form in which they will be informed that they will be part of an experimental type of research in which they

will be examined and their data will be treated in a professional manner with the sole objective of being analyzed for the research.

3. Methodological design

3.1 Type of research

This particular research will be of an explanatory type, oriented towards an experiment with a mixed approach with a quantitative preponderance and a quasi-experimental design. This was mainly because we wanted to establish cause-effect relationships between the use of background music in the EFL classroom and the effects it has on language skills such as reading and speaking, and other aspects such as motivation and task engagement. According to Nieto (2018) explanatory research explains the causes of facts, phenomena, events and natural or social processes (p. 2). In addition, a quasi-experimental study may fit our project better, as we will handled a control group and used as many participants as possible without choosing them randomly.

3.1.1 Approach

To meet our objectives, we will use a mixed research approach with a quantitative preponderance. Mixed research, according to Núñez (2017) consists of analyzing both qualitative and quantitative perspectives to give a more complex development to a certain problem (p. 634). This allowed us to gather information through experiments or surveys which can be very beneficial when trying to answer our research question, as they allowed us to test the differences between using or not using BM or even what kind of background music is more beneficial in learning English as a foreign language along with their perceptions of how motivated and engaged the participants were with the task involving BM. As this is research with a preponderance of quantitative research, it was necessary to mention, as

Watson (2015) states that "quantitative research encompasses a range of methods concerned with the systematic investigation of social phenomena, using statistical or numerical data. Therefore, quantitative research involves measurement and assumes that the phenomenon under study can be measured" (p. 1), which is what we want to achieve by studying the effects of background music.

3.1.2 Quasi-experimental design

For this research, we will make use of a quasi-experimental design. It is useful because we want to know what effects background music can have on the EFL process and a quasi-experimental study allows us to identify control and experimental groups. Regarding these groups, White & Sabarwal (2014) state that “a comparison group that is as similar as possible to the treatment group in terms of baseline (pre-intervention) characteristics. The comparison group captures what would have been the outcomes if the programme/policy had not been implemented” (p. 1). These 2 groups will be used for this research because they allow us to test the different results that listening to background music can have on the EFL process and the most effective way is to compare it with not listening to BM at all.

During this quasi-experiment, four interventions were carried out on four different days with both the experimental and control groups, each consisting of the development of a guide during the last 30 minutes of English lessons. At the beginning of the procedure, all participants were provided with an informed consent document, which was signed and returned by them, indicating their acceptance to take part in the study. In each of the four interventions, a step-by-step explanation of the activity was provided according to the corresponding guide for that day, giving participants a space to answer questions.

With the exception of the control groups, all other groups completed the guides while listening to a genre of background music assigned to each guide. On the first day, guide 1 was performed with instrumental music, followed by guide 2 with electronic music on the second

day, guide 3 with pop music on the third day, and finally guide 4 with classical music on the last day. At the end of each session, the completed material was collected and the audio files submitted in response to the open-ended questions were stored in a folder identified with the name of the respective group. Once all the guides were completed, they were grouped in a main folder, with individual sub-folders for each guide and their respective audio files.

In addition, at the end of the last day of the intervention, participants were given a questionnaire that differed depending on whether they belonged to the control or experimental groups. For the experimental groups, a Likert-type survey was designed focusing on the participants' perception of using the 4 guides accompanied by background music, with the aim of determining the effect of background music on reading and speaking skills as well as on motivation, organization of ideas and engagement during study or academic work. On the other hand, a similar survey was developed for the control groups, but without considering the presence of background music in the activities assessed.

3.2 Population and Sampling

Regarding the population that was part of the research, it was decided to choose both female and male students who were studying a degree in foreign languages at the Universidad Industrial de Santander. The size of the population will consist of 52 students who belong to the 1st and 2nd semesters of the degree in foreign languages and who are between 16 and 24 years old.

The groups of students we used in this quasi-experiment were the pre-intermediate and intermediate English groups. The pre-intermediate level consisted of three groups while the intermediate level consisted of two groups. In addition, for each level there was a control group, to which no background music was played in any instance. The remaining groups were experimental and were played background music during the activities. The total number of participants in each group and their gender is shown in the table below.

Table 1

Number of participants in the experiment

Groups	Male	Female	Total
Pre-intermediate control	4	2	6
Pre-intermediate 1	4	6	10
Pre-intermediate 2	5	5	10
Intermediate control	6	8	14
Intermediate 1	7	5	12

Additionally, the sampling method for this research was the voluntary response sample, as we visited the students' classrooms and asked them whether they wanted to participate or not. Due to the fact that four interventions were necessary to carry out all the activities, there were fluctuations in the number of answers given due to special cases with the students, which we had no control over. However, we consider that the variations, since they are not very relevant, did not affect the performance of the quasi-experiment too much.

3.3 Data Collection Instruments

In order to carry out the quasi-experiment in an ideal way, different tools were used both for its development and to evaluate the fulfillment of the objectives of our research. The first tool was the main component of this research: background music. For the development of our work, royalty-free background music of different genres of music and of different speeds was used: fast) pop and electro, and slow) instrumental and classical. From each genre of background music, different tracks not exceeding three minutes (3:00) in length were downloaded. These tracks were played in the different rooms of the participants through the

use of headphones in the audio-visual rooms of the faculty of human sciences of the Universidad Industrial de Santander. On the occasions when the participants were not in these rooms, a loudspeaker was used to play the background music.

The second tool used in this research was four intermediate level guides (A2- B1) of which two were taken from the official British Council website and the remaining two from the verified websites englishpractice.at and islcollective.com in order to have a reliable source providing the appropriate level of each guide for the research to be as accurate as possible. Each of the four guides was printed out and personally given to each participant in both the experimental groups (groups that had background music played) and the control groups (groups that did the activities without background music). In addition, each guide had a text with a different theme: Guide 1) Gym membership, Guide 2) Things to do in Thailand, Guide 3) Possibility of nuclear war, Guide 4) A fun day at the beach; and was accompanied by a series of closed-ended questions with yes/no, false/true answers to assess the effect of background music on reading skills in addition to an open-ended question to be answered orally to assess the impact of background music on participants' speaking skills (Varnosfaderani, Shahnazari & Dabaghi, 2021, p. 1203). This open-ended question was the same for all students and varied from guide to guide. Your answer had to last at least thirty seconds to get a meaningful piece of their speaking skills. However, there was no maximum time limit for their response. Therefore, it could last from thirty seconds to a few minutes.

On the one hand, to evaluate the performance of each participant in the reading skills, Excel was used to store the different answers. This was then used to count the different correct and incorrect answers and to obtain the different percentages corresponding to the performance of the participants in the experimental and control groups. On the other hand, to assess the effect of background music on speaking skills, it was necessary to use the WhatsApp tool. With the use of this application, we were able to collect and store the

different audio responses of the participants that did not exceed three minutes (3:00). In turn, the different responses were also organized and grouped into experimental and control groups.

Finally, in order to analyze the different perceptions of the participants regarding the use and non-use of background music, two virtual questionnaires were implemented at the end of the last intervention with a Likert scale format. One, for participants in the experimental group, included their perceptions of the effects of background music on reading and speaking skills and their motivation and engagement in the quasi-experiment. Another, for the participants in the control groups, included questions related to their motivation and engagement in the activities. About the use of this type of survey in research, Loomis and Paterson (2018) mention that "the rapid pace at which online technologies develop has led to a rise in Internet-based social research, mainly in the form of electronic surveys. As a result, Internet surveys have become increasingly popular (p. 1-2). In order to implement the questionnaires and to analyze them, the tool Google Forms was used. By using it, we were able to obtain the percentages of the participants' responses as well as the various graphs useful for visually expressing their different perceptions.

3.4 Resources

As for the resources implemented in this research, on the one hand, the Google forms tool was used. This tool was used to carry out and distribute the survey via the Internet. A link to the survey was be distributed to the participants via email or Whatsapp, as appropriate. This tool was useful for research as it kept the information secure, well organized and ready to download in Excel format when needed. For the processing and analysis of the information, the JASP programme will be used. This was because, in addition to being free, it contains many useful tools for quantitative research, as well as for generating graphical representations of the data collected. In addition, the permission of the teacher in charge of

the class will be needed to carry out these activities and to make use of a loudspeaker with which background music was played.

4. Data analysis

4.1 Effect of background music on reading skills.

To determine the effects of background music on reading skills, four intermediate-level closed-response guides were implemented. These were administered to all participants while listening to different types of background music. For the experimental groups, each day of the intervention, and therefore each guide, corresponded to a different genre of music: day one: Instrumental, day two: Electro, day three: Pop and day four: Classical. The control group, on the other hand, answered the different questions in the guides without listening to any type of music in order to compare the results obtained by the experimental groups. The findings are presented below, organized according to the guide number. In addition, the performances obtained by the experimental groups are compared with those achieved by the control groups of the same English level by using the same fill color.

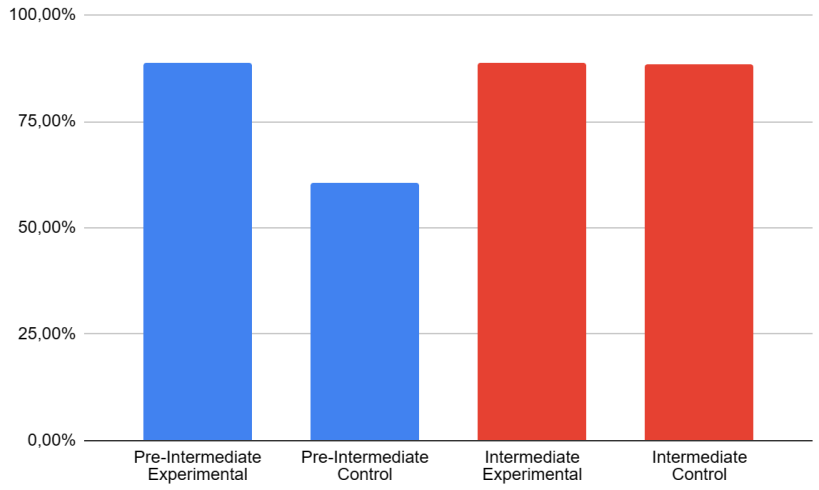
4.1.1 Guide 1

During the development of the first guide, while the participants of the experimental groups listened to instrumental music, on the one hand, the pre-intermediate group obtained 88.75% correct answers. In comparison, the control group of the same level, had a notably lower performance by achieving only 60.71%. On the other hand, the intermediate experimental group had a high rate of 88.75% correct answers. In contrast, the intermediate control group had a slightly lower percentage with a total percentage of 88.46%. These percentages demonstrated that the use of background music, specifically of the instrumental

genre, generated an increase in the number of correct answers in both the pre-intermediate and intermediate groups, giving indications that the implementation of this type of music in the English classroom was useful to foster the reading skills of the participants. The data evidenced in Guide 1 went in line with that found by Gillis (2010) when she mentions that there was no evidence that background music had a detrimental effect on reading comprehension performance (p. 19).

Figure 1

Percentage of correct answers for guide 1



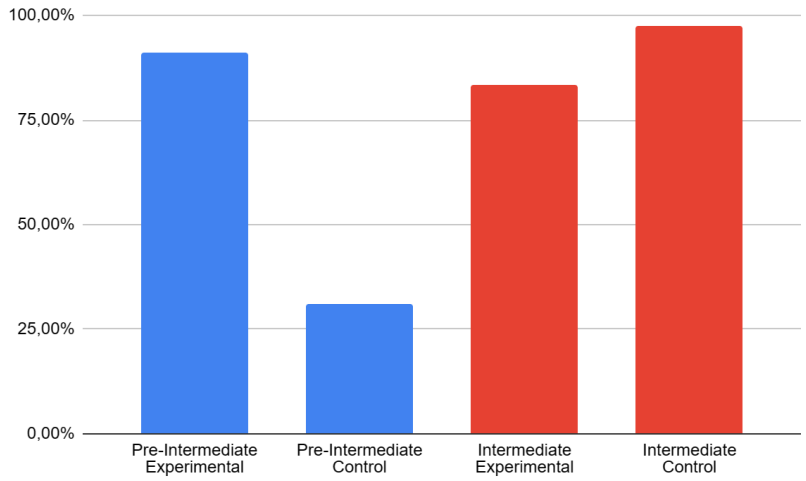
4.1.2 Guide 2

While the participants listened to electro music in the background. Regarding the pre-intermediate experimental group, the findings indicated that 91.27% of the answers provided by the participants were correct. In contrast, the pre-intermediate control group performed abysmally worse, achieving only 30.95% of correct answers. Moving on to the intermediate-level groups, the experimental group performed slightly worse than the first guide, achieving 83.33% correct answers. On the other hand, the control group of this same level had a significantly higher performance with 97.44%. These data show that although in the pre-intermediate groups the use of pop background music had a beneficial effect on the

development of the participants' reading skills, in the intermediate groups it did not prove to be entirely positive since the control group had a superior performance.

Figure 2

Percentage of correct answers corresponding to guide 2

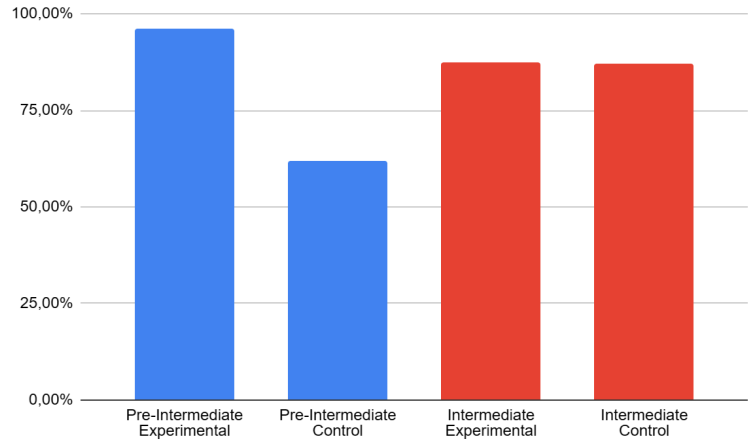


4.1.3 Guide 3

The results in Guide 3 showed a clear disparity in performance between the groups. The Pre-Intermediate Experimental Group, which had pop music playing in the background, achieved an impressive 96.30% success rate, in contrast to the Pre-Intermediate Control Group, which scored a lower 61.90%. However, at the intermediate level, the success rates were very similar between the Experimental Group (87.50%) and the Control Group (87.10%). Thus, background music, especially pop music, had a positive impact on the academic performance of pre-intermediate English students. Nevertheless, it is also clear that this effect was not significantly observed at the intermediate level. The reason for the negative effects of background music in intermediate-level students might be a result of what Thompson et al. (2011) mentioned in their article when they state that “music is most likely to disrupt reading comprehension when the music is fast and loud” (p. 706).

Figure 3

Percentage of correct answers corresponding to guide 3

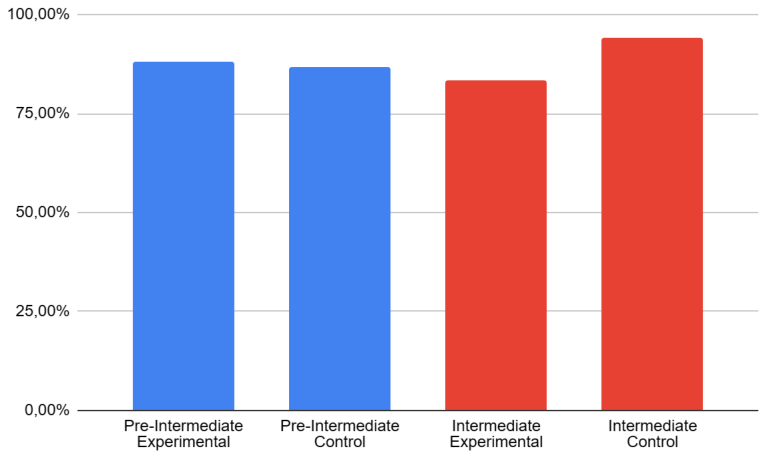


4.1.4 Guide 4

For guide 4, which was performed while the participants listened to classical background music, different results were produced depending on the level of English to which the participants belonged. On the one hand, in the pre-intermediate level groups, the experimental groups had a higher performance than the control group, reaching 88.10% of correct answers, while the control group had 86.90%. On the other hand, in the intermediate-level groups, the control group performed better with 94.23% correct answers compared to 83.33% for the experimental group. These results suggest again that the use of background music, this time of a classical type, had a more positive impact on the reading skills of the intermediate-level participants than in the pre-intermediate level.

Figure 4

Percentage of correct answers corresponding to guide 4



4.2 Effect of background music on speaking skills.

In order to accurately determine the effects of background music on orality, five factors of utmost importance had been considered that encompass students' fundamental abilities to communicate effectively. These factors included fluency of speech, accuracy of expression, appropriate use of verbs, and, last but not least, the syntactic complexity of their utterances.

To carry out this analysis, an audio test had been designed to comprehensively evaluate each of these aspects. In this test, the duration of the oral interaction, the selection and appropriate use of words, the correct use of vocabulary relevant to the subject matter, as well as the precise use of the required verb tenses according to the context of the conversation were studied in detail.

By taking these factors into account and through the application of this assessment methodology, we hoped to obtain more accurate and consistent results that would allow us to comprehensively understand how the presence of background music can influence the development of students' speaking skills.

4.2.1 Explanation of the elements of the study

To determine the effect of background music on participants' speaking skills, three elements were taken into account. The first element was fluency. To measure fluency, two parameters were used: Rate A and Rate B. On the one hand, according to Ahmadian et al. (cited in Varnosfaderani et al., 2021), the first criterion is based on the number of syllables in each narrative divided by the number of seconds used to complete the task and multiplied by 60 (p. 1203). The purpose of Rate A lies in quantifying the number of verbal utterances uttered by each participant in a given time interval, utterances that may include speech fillers, repeated, rephrased, and substituted sentences. This approach seeks to provide a comprehensive view of the participants' verbal production, considering both the quantity and the variability of the utterances used. Table 2 shows Rate A, counting the repeated, reformulated, or substituted sentences, as well as the speech fillers. The count of syllables was 106, which was divided by 45 seconds and multiplied by 60.

Table 2

Number of syllables used

N Clause	Clauses	Phonetic Transcription	N syllables
Clause 1	I would like to try it um, on cook,	aɪ/ wʊd/ laɪk/ tuː traɪ ɪt əm**,** ɒn kʊk**,**	9
Clause 2	because well I know that sounds um, good um,	bɪˈkɒz wɛl aɪ nəʊ ðæt saʊndz əm, gʊd əm,	10

Clause 3	there are things that I like like will, um, the food for example or to think that you can explore	ðeər ɑ: θɪŋz ðæt aɪ laɪk laɪk wɪl, əm, ðə fu:d fɔ:r ɪgˈzɑ:mpᵊl ɔ: tu: θɪŋk ðæt ju: kæn ɪkˈsplɔ:	23
Clause 4	and do different things	ænd du: ˈdɪfᵊrᵊnt θɪŋz	6
Clause 5	but um, really I I don't know it's	bʌt əm, ˈrɪəli aɪ aɪ dəʊnt nəʊ ɪts	10
Clause 6	because, well, there's a a pollution and a lot of traffic	bɪˈkɒz, wɛl, ðeəz ə ə pəˈlu:ʃᵊn ænd ə lɒt ɒv ˈtræfɪk	15
Clause 7	so I think that could be so so stressing	səʊ aɪ θɪŋk ðæt kʊd bi: səʊ səʊ ˈstrɛsɪŋ	10
Clause 8	and I would prefer to go to somewhere more quiet	ænd aɪ wʊd priˈfɜ: tu: gəʊ tu: ˈsʌmweə mɔ: ˈkwaɪət	13
Clause 9	and meet with less traffic and more nature	ænd mi:t wɪð lɛs ˈtræfɪk ænd mɔ: ˈneɪʧə	10
N Final Syllables			106

On the contrary, the procedure associated with index B implied a refinement of the analysis by excluding repeated, rephrased, substituted, and muleteer sentences, to concentrate exclusively on the count of sentences that have relevant semantic content. This delimitation is based on the premise that meaningful sentences are those that best reflect the communicative

and expressive ability of the participants. Subsequently, a comparison was made between the results obtained through the two evaluation criteria (Rate A and Rate B). This comparative analysis stage was established as a means of evaluating the verbal fluency of each participant from two complementary perspectives: the first, focused on the raw quantity of verbal expressions emitted; and the second, focused on the quality and relevance of the content expressed. Table 3 shows Rate B, in which a similar process was carried out as in Rate A, except that only the significant sentences were included. The eliminated syllables were underlined with green color. By excluding these phrases, the number of syllables was reduced from 106 to 101. Subsequently, the same process was performed by dividing by the seconds of duration and finally multiplying by 60.

Table 3

Number of significant syllables used

N Clauses	Clauses	Deleted syllables	Phonetic Transcription	Total Syllables	Significant Syllables
Clause 1	I would like to try it, on cook,	I would like to try it um, on cook	aɪ wʊd laɪk tuː traɪ ɪt, ɒn kʊk,	9	8
Clause 2	because well I know that sounds, good	because well I know that sounds um, good um,	bɪˈkɒz wɛl aɪ nəʊ ðæt saʊndz, gʊd	10	8
Clause 3	there are things that I like will, the food for	there are things that I like like will, um, the food for	ðeər ɑː θɪŋz ðæt aɪ laɪk wɪl, ðə fuːd fɔːr	23	21

	example or to think that you can explore	example or to think that you can explore	ɪgˈzɑːmpᵊl ɔː tuː θɪŋk ðæt juː kæn ɪkˈsplɔː		
Clause 4	and do different things		ænd duː ˈdɪfᵊrᵊnt θɪŋz	6	6
Clause 5	but, really I don't know it's	but um, really I I don't know it's	bʌt, ˈrɪəli aɪ dəʊnt nəʊ ɪts	10	8
Clause 6	because, well, there's a pollution and a lot of traffic	because, well, there's a a	bɪˈkɒz, wɛl, ðeəz ə pəˈluːʃᵊn ænd ə lɒt ɒv ˈtræfɪk	15	14
Clause 7	so I think that could be so stressing	so I think that could be so so stressing	səʊ aɪ θɪŋk ðæt kʊd biː səʊ ˈstrɛsɪŋ	10	9
Clause 8	and I would prefer to go to somewhere more quiet		ænd aɪ wʊd priˈfɜː tuː gəʊ tuː ˈsʌmweə mɔː ˈkwaɪət	13	13
Clause 9	and meet with less traffic and more nature		ænd miːt wɪð lɛs ˈtræfɪk ænd mɔː ˈneɪʧə	10	10

N Final Syllables	106	101

Continuing with the analysis, we moved on to the second relevant criterion to be taken into account, which was accuracy. This was composed of two main elements: error-free clauses and the percentage of correct verb forms. On the one hand, regarding error-free clauses, Varnosfaderani et al (2022) explained that it refers to the production of language free of morphological, syntactic, and word order errors. It is quantified by the proportion of error-free clauses to the total number of clauses in the discourse. In the table below (Number 4), clauses with no errors are highlighted in green, and clauses with one or more errors were highlighted in red. Additionally, the errors in each clause were indicated by the use of capital letters in red color for better understanding. In this particular case, the number of total clauses was 15 while the number of error-free clauses dropped to 12 for a total of 80% error-free clauses.

Table 4

Number of errors in the clauses

N Clauses	Clauses	Number of errors
Clause 1	In my personal opinion I think that the gym has A really good things to offer	1
Clause 2	However, I don't like the fact that after a few months	0
Clause 3	you are going to train or work better on your own	0
Clause 4	They say there's an EXPERT that is near you	1

Clause 5	And you can always like ask them	0
Clause 6	However, in these type of gyms	0
Clause 7	they usually tend to be really crowded	0
Clause 8	Because of all the the things that they offer	0
Clause 9	So the experts will not be able	0
Clause 10	to manage to pay attention	0
Clause 11	to control the EXICES that I am doing	1
Clause 12	and that's a problem	0
Clause 13	because I could get injured	0
Clause 14	because of that	0
Clause 15	So I wouldn't like to subscribe myself to that gym	0
Number of total errors: 3	Percentage of error-free clauses: 80%	

On the other hand, the correct use of verbs was also essential to maintain clarity and coherence in the production of language. Verbs serve as the backbone of sentences and convey actions, states, and relationships between elements. Ensuring proper verb usage involves understanding tense, mood, aspect, voice, and agreement within the context of the sentence. However, for the purpose of this research, neither aspect nor voice were analyzed. Considering the above, the number of correct verb forms was also counted and percentages

were obtained with respect to the total number of verb forms in order to make the respective comparisons and obtain a quantitative value. In table number 5, the different verb forms were underlined in yellow. In addition, the incorrect verb forms were expressed with the use of capital letters and with red colored letters for a correct understanding. In this case, the total number of verb forms was 16 while the number of correct verb forms decreased to 12. Therefore, the percentage of correct verb forms was 75%.

Table 5

Number of errors in verb forms

N Clauses	Clauses	Number of errors in verb forms
Clause 1	Amm I CONSIDER NOT a gym fam	1
Clause 2	but watching the membership	0
Clause 3	that BEST BODY FITNESS OFFER	1
Clause 4	I think that it could be an opportunity	0
Clause 5	to become part of this community	0
Clause 6	Something that I have to say is that	0
Clause 7	even they SAID US all the opportunities or services	1
Clause 8	that they offer	0
Clause 9	They don't SAID in any moment the cost	1

Clause 10	that the membership has	0
Clause 11	And maybe if they told me	0
Clause 12	or if they put in the text the information	0
Clause 13	of how much is the membership	0
Clause 14	I would sign up to the gym	0
Number of errors: 3	Percentage of correct verb forms: 75%	

A third important element in analyzing the effectiveness of background music on participants' orality was its effect on syntactic complexity by creating clausal units (clausal complexes). According to Ahmadian et al (as cited in Varnosfaderani et al, 2021, p. 1203) syntactic complexity could be analyzed by taking into account two elements: the number of clauses and the number of AS units. This was because a meaningful speech unit consists of a hypotactic clause accompanied by one or more paratactic clauses which form an AS unit. These paratactic clauses have a subordinate relationship to the main clause. That is, they are clauses that have a dependent function on the main verb, serving as a complement of the latter (Huddleston & Pullum, 2006, p. 198). Then, to obtain a quantitative value, the total number of clauses is divided by the total number of AS units (Varnosfaderani et al. 2021). In the table below (number 6), the different AS units (delimited by the colors) can be observed, in addition to the total number of clauses with their respective numbering for a better understanding (1-15).

Table 6

Number of AS units	*Number of Clauses*
AS Unit 1	1 Overall I like the membership
	2 because it is very complete.
AS Unit 2	3 And I like the assessment session
	4 because not everyone needs the same exercises or the same routines
AS Unit 3	5 Also, I like that at first you have someone supervising your sessions
	6 and then you can do it on your own
	7 Because sometimes I feel watched
	8 and I get shy
AS Unit 4	9 so I don´t do the exercise properly
	10 but focus on if they are making faces
	11 like I'm doing something wrong or something like that
AS Unit 5	12 Also I like the community that it has many events
	13 and everything is included in the fee
AS Unit 6	14 Besides that I like that
	15 the stop or cancel doesn't have to be paid.

4.2.2 Comparison between experimental and control groups

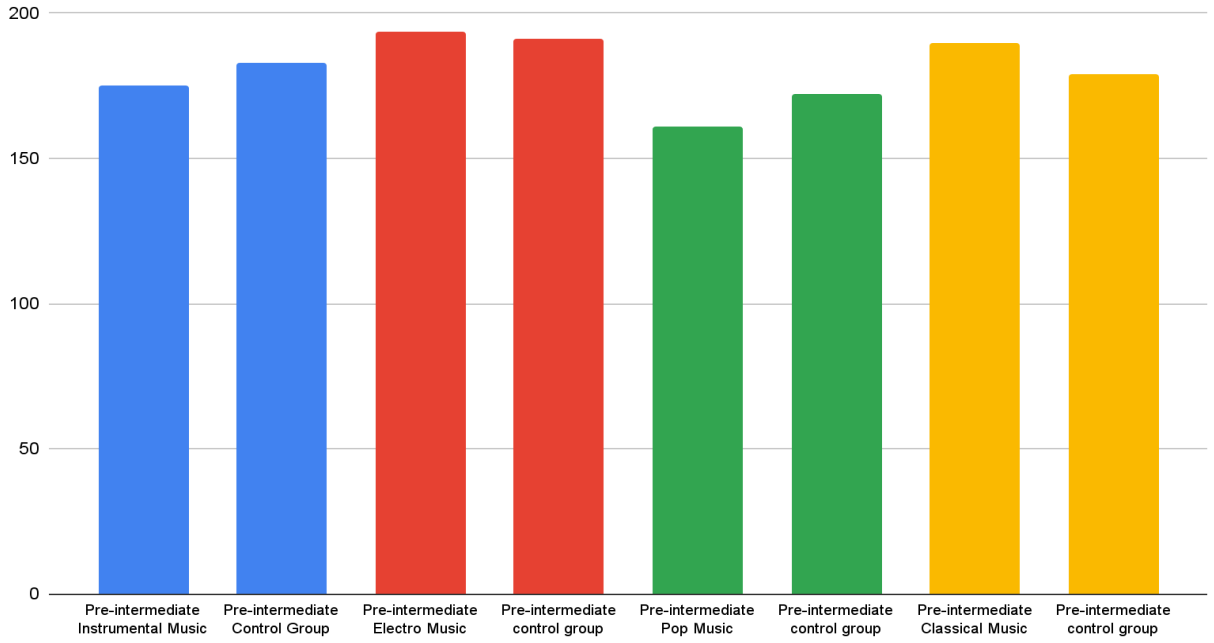
To achieve an adequate comparison of the different elements of the study that would allowed us to evaluate the effects of the different genres of background music on the communicative abilities of the participants of the experimental groups, as well as to carried out a suitable comparison with the control groups, the results obtained in the different open-ended questions were presented according to the elements. These were presented in the same order in which they were introduced in the previous section. Additionally, in the graphics, the group with background music was associated with its corresponding control group by using the same fill color.

4.2.2.1 Rate A. Analyzing the pre-intermediate English groups, several results were noticed in both the experimental and control groups. First, the participants of the experimental groups when listening to background music of the instrumental genre had a lower performance compared to the control group, having an average of 174.4 compared to 183.08 of the control group, having a difference of 9.52. In the second place, the experimental groups when listening to electro-type background music, contrary to the previous genre, had superior results by reaching an average of 194.56, a higher result than the control group which obtained a 191.3, having a 3.26 higher average. In third place, the results of the experimental groups when listening to pop music were lower compared to the previous groups having an average of 161 in contrast to the average of the control group which was 172.2 achieving an increase of 11.1 in their results. Finally, the classical background music genre achieved an average of 189.6, being one of the highest averages of the groups analyzed, contrary to the control group that obtained only a score of 178.9, having a difference of 11.3 points.

These results showed 2 important points, the first being that the electro and classical music groups performed better than other groups including the control groups with which they were contrasted. The second important point was that although the instrumental and pop music groups did not outperform the control groups, there was no significant difference. Taking into account the results of the experiment and those obtained by Van Horn (2020) it was feasible to affirm that background music acted as a protection that allows students to speak with confidence and without worrying about outsiders listening to them and/or judging their oral production. (p.182).

Figure 5

Results of Rate A in pre-intermediate groups



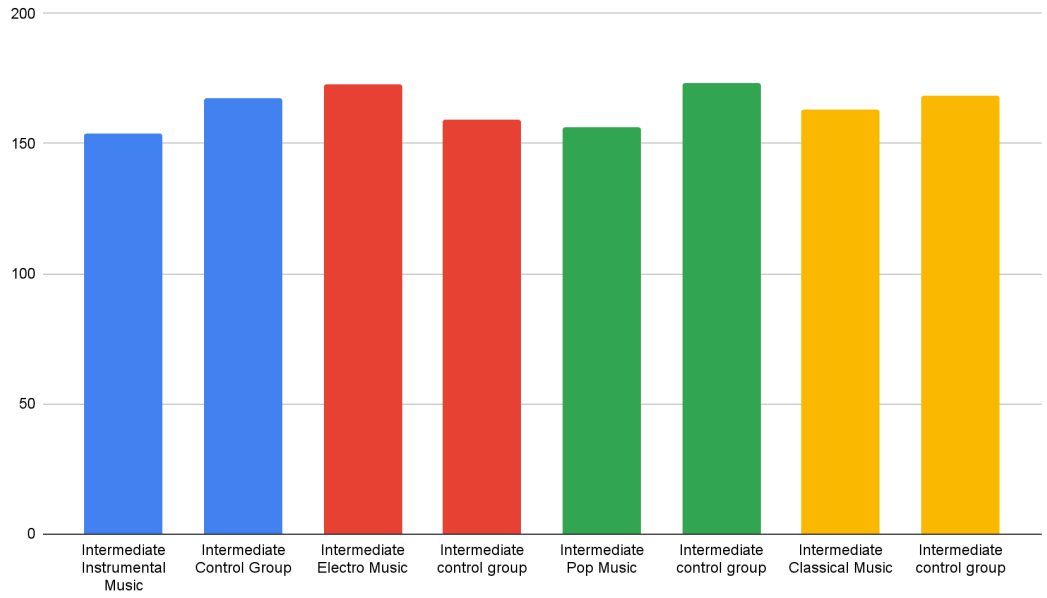
In the analysis of the intermediate groups regarding Rate A, the following results were found. The experimental group with instrumental background music achieved an average of 153.8, compared to the control group that achieved a total of 167.3. These results were 14.5 points higher than the average of the experimental group. When listening to electro-type background music, the experimental group achieved favorable results of 172.7, which surpassed those of the control group which achieved a score of 159.2, surpassing them by an average of 12.5 points. The experimental group when listening to pop music achieved an average score of 156, which did not manage to surpass the average of 173 obtained by the control group, demonstrating overwhelming results, surpassing the experimental group by 14 points. Finally, when listening to classical music, the experimental group achieved an average of 162, which, in contrast, did not exceed the 168 achieved by the control group.

These results indicated that although the experimental groups at the intermediate level of English performed very close to their respective control groups, only the experimental group listening to electro music managed to outperform the control group, demonstrating that

background music did not have as positive an effect on the intermediate groups as it did on the pre-intermediate groups in Rate A.

Figure 6

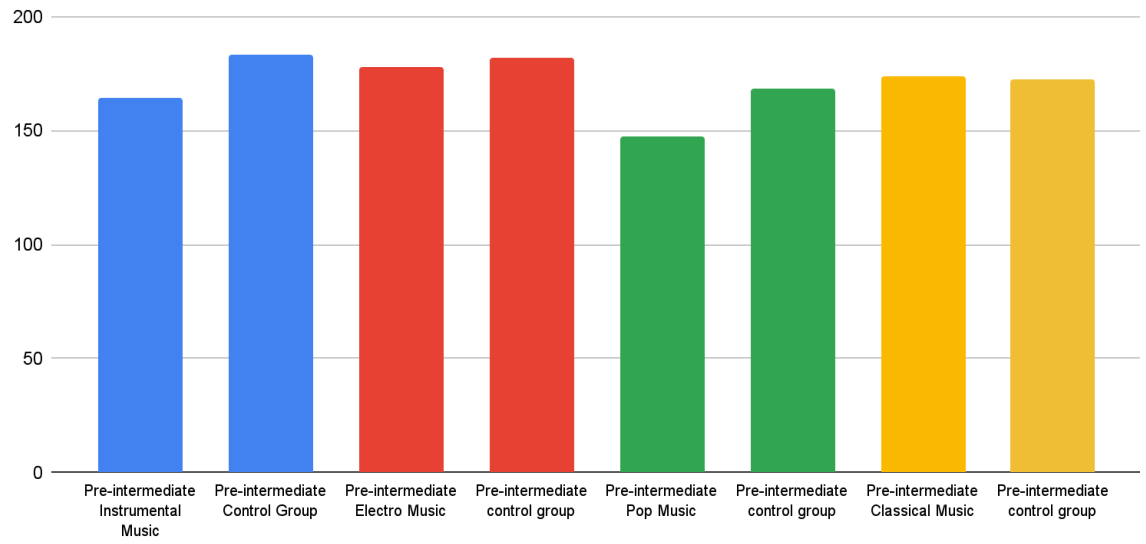
Results of Rate A in intermediate groups



4.2.2.2 Rate B. On the one hand, analyzing the results of the pre-intermediate groups in terms of Rate B, the following could be found. First, the experimental groups, when listening to instrumental music, achieved an average of 164.1, which was not only one of the lowest averages but also failed to exceed the average of the control group, which scored 183. Second, when listening to electro music, the experimental group had a fairly high overall average of 178, but despite being a high average, it did not exceed the average of the control group, which scored 182 points. Thirdly, when listening to pop music, the experimental group obtained a lower average of 147, and, as expected, it did not exceed the control group's average of 168. Lastly, when listening to classical background music, the experimental groups obtained an average of 173. Despite not being one of the best scores, it was the only one that surpassed the control group, which obtained 172 points. These results of the pre-intermediate group were constant in comparison with the Rate A since only one experimental group managed to outperform its control group, this group being the classical music group. The other groups, although some were closer than others, were not able to outperform their respective control groups.

Figure 7

Results of Rate B in pre-intermediate groups

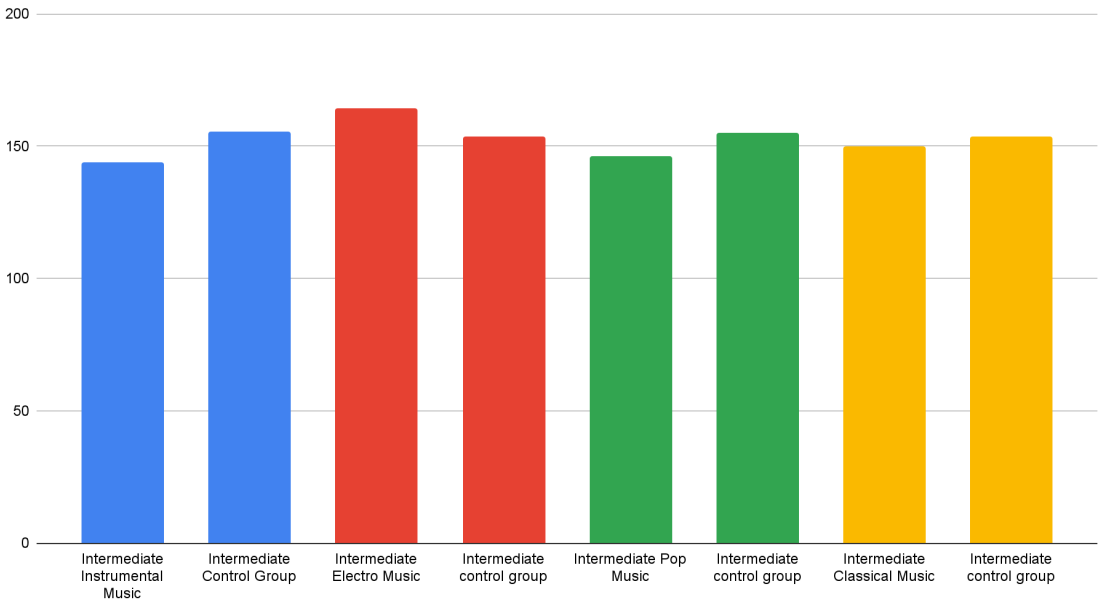


On the other hand, when examining the results of the experimental group and the intermediate-level control group, the following was found. The experimental group when listening to instrumental background music reached an average of 144, being lower than the average of the control group that obtained a total of 155. When listening to electro-type background music, the experimental group had an average of 164 points, surpassing the control group that obtained an average of 153. The experimental group when listening to pop music had an average of 146, which, not being a very high average, did not manage to surpass the score of the control group that obtained 155 on average. Finally, the experimental group when listening to classical music had an average score quite similar to the control group, obtaining a 149 compared to the 153 obtained by the control group.

Although the overall averages of the control group were higher than those of the experimental group, when the experimental group listened to electro-type background music, they managed to surpass their respective control group average and also managed to have the highest average among all groups in the intermediate level of English. This indicated that the use of electro music had a positive effect on the Rate B of the participants. However, it was clear that in general the use of background music did not have such a positive effect on the B-rate in either level of English. This data differed from the findings of Sağlam (2010) in which fluency was influenced positively after listening to background music while doing a speaking task (p. 60). This is important because it indicated that there were other aspects which are important to take into account when deciding whether background music has a negative or a positive effect in the fluency of English speakers.

Figure 8

Results of Rate B in intermediate groups



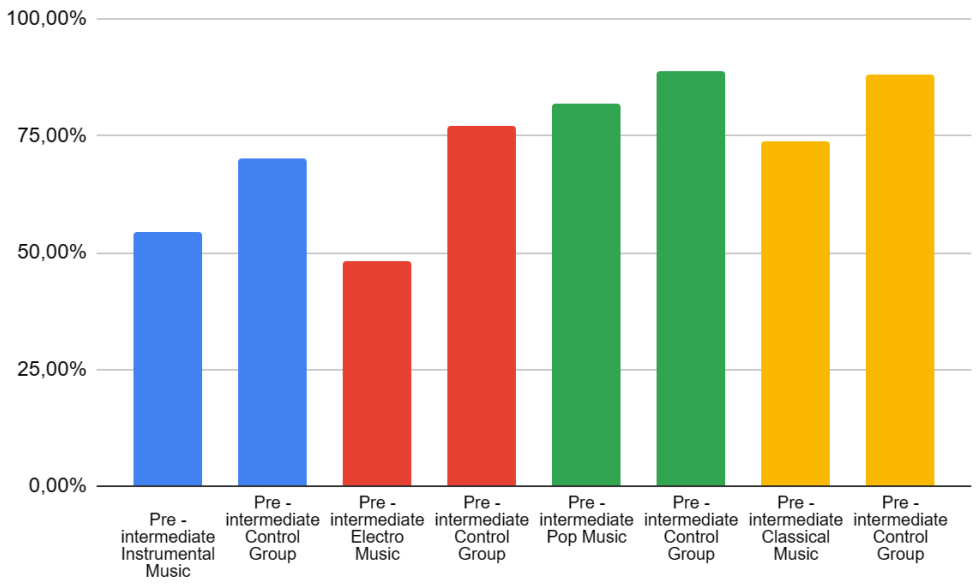
4.2.2.3 Error free clauses. On the one hand, when analyzing the results obtained by the pre-intermediate experimental and control groups with respect to their error-free clauses, it was found that the control groups had a better performance in their communicative skills in each of the open questions corresponding to each of the guides compared to the experimental groups. First, the error-free clauses present while the participants listened to background music of the instrumental genre were only 54.54%, while the participants who answered the same question without the implementation of background music obtained a significantly better result with 70% error-free clauses. Secondly, the results achieved in the open-ended responses while listening to background music of the electro genre were also lower than those achieved by the control group by having 48.15% in contrast to 77.12% of the control group.

Third, when comparing the results of the participants when listening to pop-type background music with the results obtained when answering the same question by the participants of the control group, it was found that there was a lower difference between the

two groups. However, the control group still had better results with 88.98% error-free clauses with respect to the 82% achieved by the experimental groups. Finally, when comparing the results in the open-ended questions of the participants of the experimental groups while listening to classical background music with those who did not listen to background music, it was noticed that the control group also had a better performance reaching 88.02% of clauses without any type of error versus 73.70% achieved by the experimental group. These results obtained in the four open-ended questions showed us that as far as this quasi-experiment is concerned, background music was not very useful in getting the pre-intermediate participants to implement error-free speech.

Figure 9

Percentage of error-free clauses in pre-intermediate groups



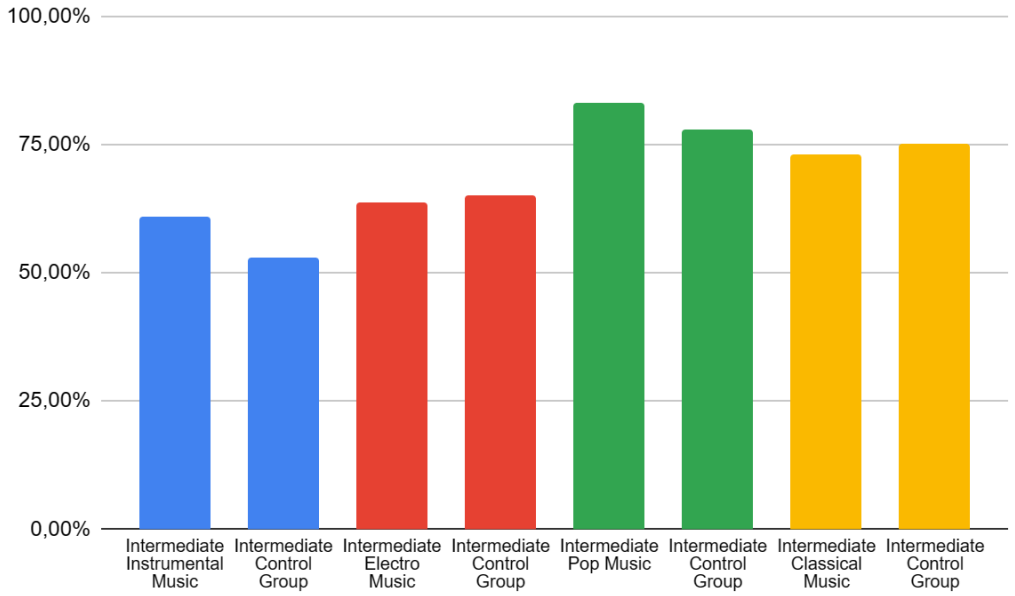
On the other hand, when examining the results obtained by the experimental group and the intermediate-level control group, it was found that the differences in performance were much less abysmal and that the use of background music seemed to benefit the intermediate-level groups much more. First, when observing the results obtained by the

experimental group while the participants listened to instrumental background music, they were superior to those obtained by the control group. Here, the experimental group obtained 61% error-free clauses while the control group only obtained 53%. Secondly, when looking at the percentage of error-free clauses achieved by the experimental group while listening to electro music, it was observed that the participants performed slightly worse than their counterpart, obtaining 63.6% of error-free clauses compared to the 65% achieved by the control group.

Thirdly, when studying the differences between the percentages of error-free clauses of the experimental group while listening to pop background music and the control group, it was observed that the experimental group had a better performance with 83% of error-free clauses compared to 78% obtained by the control group. Finally, taking into account the number of error-free clauses achieved by the experimental group when listening to classical background music, it was detected that the control group had a slightly better performance by obtaining 75% compared to 73.20% of the experimental group. These results suggest that the use of pop and instrumental background music caused the participants in the intermediate groups to perform better in their communicative skills than those achieved by the control groups. On the other hand, although using classical and electro background music caused participants to have fewer error-free clauses, the difference compared to the control groups is tiny. Even so, the results illustrate what is mentioned in Van Horn (2020) where his participants, through the use of a survey, declared that background music was helpful for their oral production (p. 185). However, it should be noticed that as far as error-free clauses are concerned, the background music had a much more beneficial effect on the intermediate participants than on the pre-intermediate participants.

Figure 10

Percentage of error-free clauses in intermediate groups



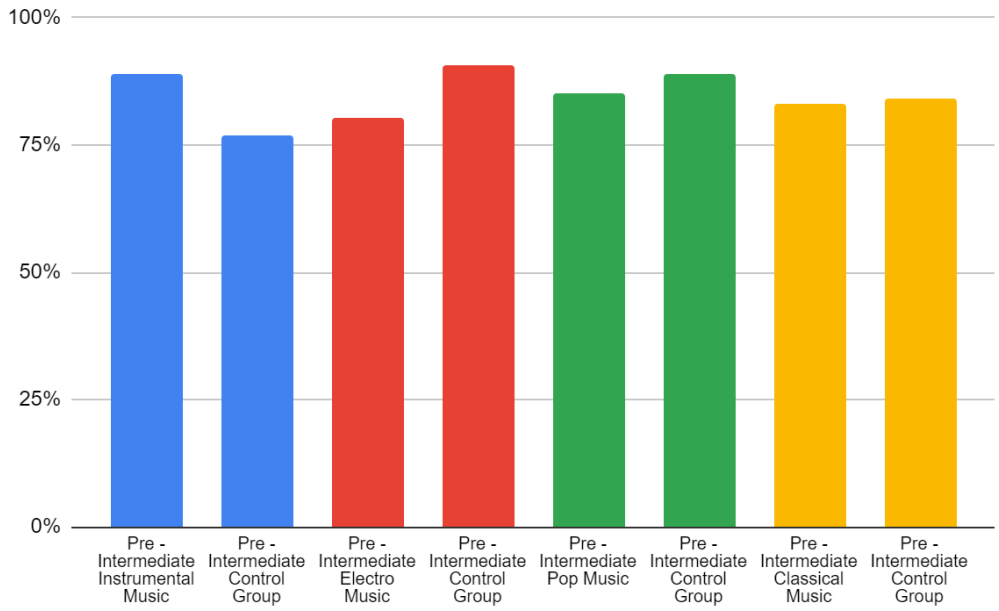
4.2.2.4 Correct verb forms. When examining the results obtained by both the experimental and control pre-intermediate groups in relation to the Correct Verb Forms, it was observed that the control groups exhibited superior performance in terms of correct conjugation of the verbs presented in their responses. First, the instrumental music experimental group showed a correct rate of 89%, compared to 77% for the control group. Second, the electronic music experimental group achieved a percentage of 80.34%, contrasting with the 90.84% achieved by the control group, thus surpassing it. In third place, the pop music experimental group scored 85%, while the control group achieved 89%. Finally, the classical music experimental group scored 83.03% correct, compared to 84.17% for the control group.

These findings reveal that, in general, the control groups demonstrated better mastery of the appropriate verb forms compared to the experimental groups in each musical genre. However, it is important to note that the difference in performance between the experimental

and control pre-intermediate groups was not significant in all cases, suggesting that other factors might influence the acquisition of the correct verb forms.

Figure 11

Percentage of correct verb forms in pre-intermediate groups



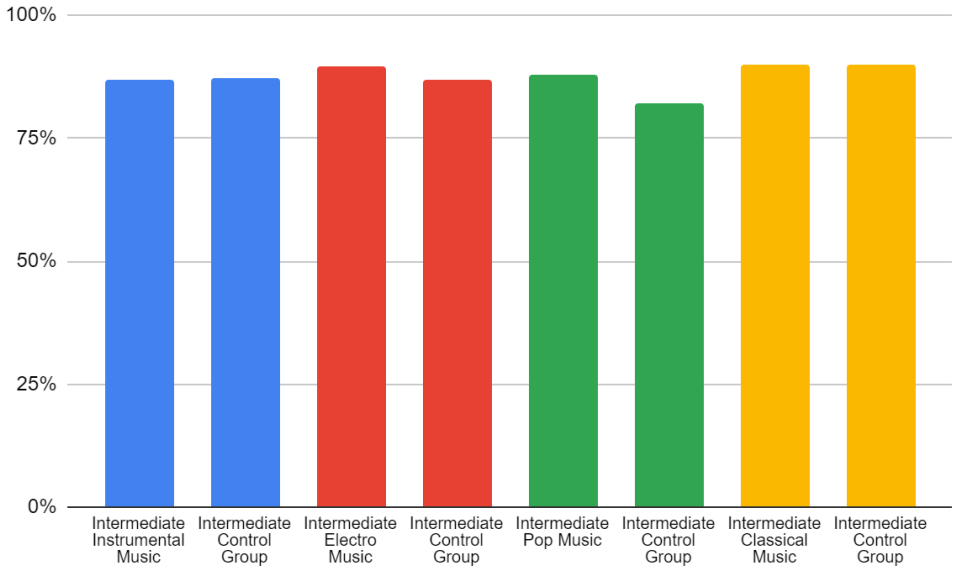
When analyzing the results obtained by the intermediate experimental groups in comparison with the control group, the following could be observed. First, the experimental group that was exposed to instrumental background music achieved a performance of 87% in the correct verbal forms, while the control group obtained 87.07%. Secondly, the group exposed to electronic music achieved 89.70%, compared to 87% for the control group. Thirdly, the experimental pop music group obtained 88%, contrasting with the 82% obtained by the control group. Finally, the experimental group exposed to classical music achieved 90%, as did the control group, both with 90%.

In summary, these results indicate that, overall, there was no significant difference in performance between the intermediate experimental groups and the control group. However, it is crucial to note that, although some experimental groups showed slightly superior performance in correct verb conjugation, the difference was not marked enough to claim a

beneficial effect of music on the mastery of correct verb forms. Nevertheless, as it is expressed in Kaswari et al. (2023), background music can boost the learners' confidence and as it improves, their speaking skills are enhanced (p. 294).

Figure 12

Percentage of correct verb forms in intermediate groups



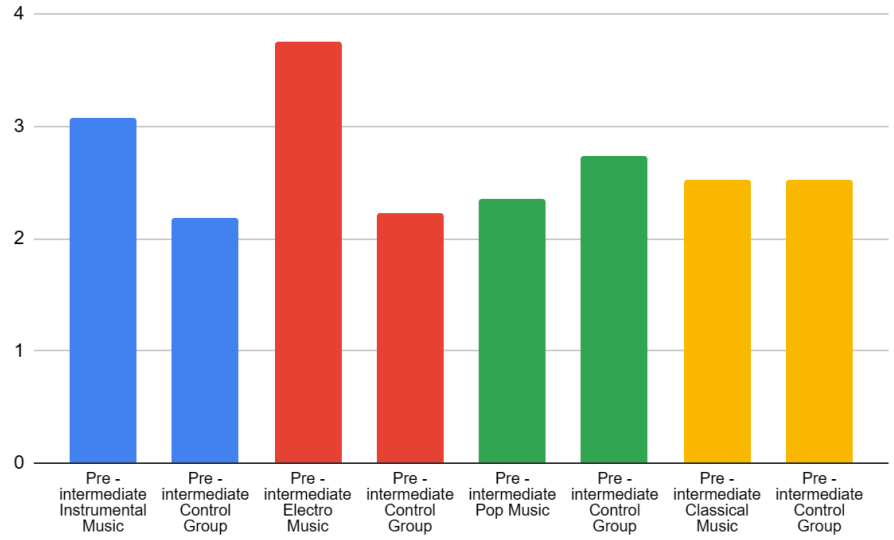
4.2.2.5 AS units. When analyzing the results obtained by the participants of the experimental groups of the pre-intermediate level and the control group of the same level in terms of making AS units in the open-ended questions, we found that background music had a mostly positive effect on syntactic complexity, which is determined by the use of a higher number of paratactic clauses accompanying an independent hypotactic clause, and, therefore, on the participants' communicative abilities. First, when comparing the results achieved by the experimental group when listening to instrumental background music and the control group when answering the same question, it was found that the experimental group obtained a score of 3.07 while the participants in the control group obtained a vastly lower score with 2.19. This difference in scores illustrates that for every 3.07 clauses, participants in the experimental group used one AS unit, evidencing that they had a higher syntactic complexity compared to the control group that used on average one AS unit for every 2.19 clauses. Second, when performing the same comparison while the participants of the experimental group listened to electro background music, it was found that the experimental group had a vastly superior performance with a score of 3.76 in contrast to the 2.23 obtained by the participants belonging to the control group.

Third, when analyzing the results obtained while the participants of the experimental groups listened to pop background music, a different picture was found from the two aforementioned music genres as the control group performed slightly better than the experimental group with a score of 2.74 compared to the 2.35 achieved by the experimental group. Finally, when analyzing the performances achieved by the control group and the experimental group while classical background music was played, it was discovered that the results were incredibly similar. Both groups produced on average one AS unit per 2.52 clauses indicating that there was no significant difference between playing classical background music and not playing classical background music. Overall, these results showed

us that using background music in the English classroom had a favorable effect on the syntactic complexity of the pre-intermediate participants. This in turn points to a positive effect on the participants' communicative skills. Additionally, it suggests that the use of instrumental and electro background music may have more beneficial effects than the use of pop and classical music.

Figure 13

Number of AS units in pre-intermediate groups



When considering the performances achieved by the participants of the control group and the intermediate-level experimental group in the use of AS units, the results obtained differed from those observed in the pre-intermediate level. This was because the control groups generally performed better. First, when comparing the performances of the experimental group while listening to instrumental music and the control group, it was observed that the control group had greater syntactic complexity by obtaining a score of 3.4 compared to the 2.72 achieved by the experimental group. Secondly, the results obtained when comparing the experimental group while listening to background electro music with the

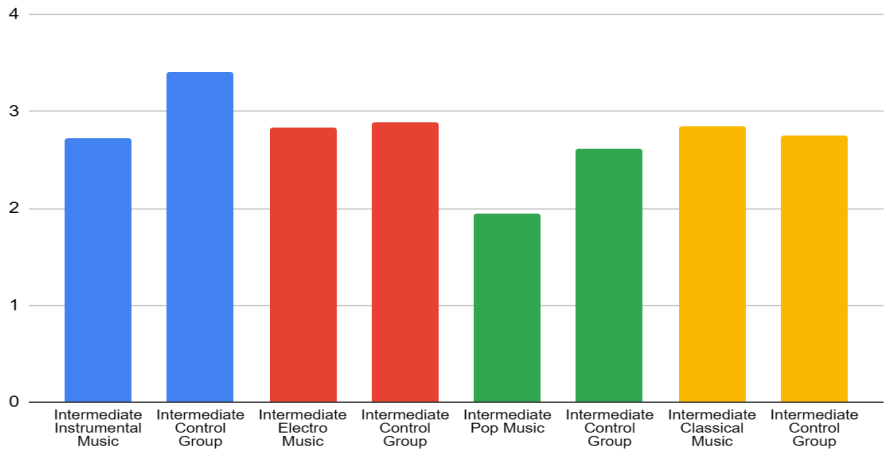
control group were much more similar to each other since the experimental group scored 2.83 while the control group scored 2.89, which represents only a tiny difference.

Thirdly, the difference between the experimental group when listening to background pop music and the control group was much more marked since the experimental group obtained a score of only 1.94 while the control group achieved a total of 2.62. Finally, when analyzing the performances of the experimental group when listening to classical music and the control group, the results were very different from those obtained in the other genres, since the experimental group surpassed the control group by obtaining a total of 2.85 in contrast to the 2.75 achieved by the control group. These data indicate that the use of background music did not have such a positive effect on the production of AS units in the intermediate-level groups. However, the implementation of background music of the classical genre promoted better performance from the participants of the experimental groups by obtaining a higher score than the respective control group. Nevertheless, it is clear that the background music had a much more favorable effect on the production of AS units in the pre-intermediate groups than in the intermediate groups.

Regardless, the utilization of music has the potential to improve the retention of vocabulary and phrases. Learners frequently have it easier when recalling words and expressions when these linguistic components are linked with a musical melody. As explained by Bacha et al. (2021) in Kaswari et al. (2023), this process serves to strengthen neural connections in the brain, consequently enhancing the efficacy of language acquisition (p. 294). This observation is pertinent to our investigation because associating expressions or sentences with melody aids in the formation of more natural and fluent sentences. Syntactic complexity is seen when such musical associations contribute to the development of sentences with more intricate structures.

Figure 14

Number of AS units in intermediate groups



4.2.3 Comparison between English levels

Table 7

Total results of the groups

Nivel	Rate A	Rate B	AS Units	Error Free Clauses	Correct Verb Forms
Pre-Intermediate Experimental	**179.804**	**165.857**	**2.929**	**64.60%**	**84%**
Control Pre-Intermediate	**181.385**	**174.373**	**2.426**	**81%**	**85%**
Intermediate Experimental	**161.403**	**151.085**	**2.588**	**70%**	**89%**
Control Intermediate	**167.017**	**154.516**	**2.918**	**68%**	**86.52%**

When comparing the results obtained by the experimental groups, we can highlight that the pre-intermediate group showed better fluency than the intermediate group. This is due to the fact that they not only used more sentences per minute when answering the question, but also used fewer resources such as crutches and substituted or rephrased words. Likewise, when analyzing syntactic complexity, we observed that the pre-intermediate group used more dependent clauses followed by an independent clause in the same AS unit, since for each AS unit, the pre-intermediate group used 2.92 dependent clauses while in the intermediate group only 2.58 were implemented. In contrast, when we compared the accuracy of the two groups, we obtained that the intermediate group not only had fewer error-free clauses, but also made better use of the verb forms.

On the other hand, when comparing the control groups, we can see that in terms of fluency, the pre-intermediate group was superior to the intermediate group. On the other hand, when observing the results of syntactic complexity, it is clear that the intermediate group had a higher result using 2.91 dependent clauses for each AS unit, while the pre-intermediate group used 2.42. Further, when analyzing the precision of the two groups, while the pre-intermediate group had fewer error-free clauses, the intermediate group used the verb forms better.

4.3 Participants' perceptions

The different perceptions of the participants regarding the use or non-use of background music were collected after the implementation of the four sessions of the experiment by means of a questionnaire. First, both experimental and control groups were asked questions regarding factors associated with motivation during the experiment. These data were divided into those belonging to the students who performed the activities with background music and those belonging to the participants who did not use background music.

The following is a discussion of the results obtained in terms of motivation during the experiment for both the experimental and control groups.

4.3.1 Motivation

First, when analyzing the statement: "Define how you felt doing the activities listening to background music", which was asked to the participants of the experimental groups, it was found that 31.8% of the participants felt very comfortable listening to background music while doing the activities and 40.09% felt comfortable. Only 2.3% were uncomfortable and 2.3% were very uncomfortable. The remaining 25% felt neither comfortable nor uncomfortable listening to background music. In contrast, the group that did not listen to any background music was asked the question: "Define how you felt doing the activity", the data indicate that 83.3% felt comfortable doing the activity. Unlike the groups with background music, none of the participants indicated that they felt very comfortable. Likewise, none of the participants indicated that they felt uncomfortable or very uncomfortable. The remaining 16.7% of the participants indicated that they felt neither comfortable nor uncomfortable. It can be inferred from the data that the use of background music made a large percentage of the participants feel very comfortable performing the activities. However, it may also generate a feeling of discomfort in a very small amount of the sample. As proof of the positive effects of background music in motivation, Aguirre et al.(2016) as cited in Gafor and Hartmann (2020) discovered compelling proof that music is an effective method for enhancing learners' motivation for learning English. In addition, incorporating music into the ESL classroom appears to increase learners' engagement in their activities, leading to improved confidence, energy, and enthusiasm while completing tasks (p. 21).

Secondly, the participants in the experimental groups were asked: Do you agree that you felt relaxed doing the activities with background music? The results indicated that more

than 75% of the participants agreed, with 52.3% agreeing and 27.3% strongly agreeing. On the other hand, only 4.5% disagreed and none strongly disagreed. The remaining percentage neither agreed nor disagreed (15.9%). In comparison, the control group was asked if they agreed that they felt relaxed doing the activity. The results showed that 66.7% of the participants agreed with the statement, with 50% agreeing and 16.7% strongly agreeing. However, in comparison with the experimental group, although the percentage of participants who strongly disagreed remained at 0%, the percentage who disagreed rose to 16.7%. The percentage of participants neither agreeing nor disagreeing remained stable at 16.7%. This revealed that using background music to perform activities while studying English leads to a more relaxed state compared to performing the activities without background music.

Third, when analyzing the responses to the statement, "Do you agree that using background music can help you organize your ideas better mentally?" given to the experimental groups, it was found that 36.4% agreed and 34.1% strongly agreed, putting a total of more than 70% of the participants in agreement. On the other hand, the percentage of participants in disagreement was only 4.5% with 0% of participants strongly disagreeing. The percentage neither agreeing nor disagreeing was the remaining 25%. The control group was asked the question: Do you think you were able to organize your ideas mentally? The results indicate that more than 80% agreed with 66.7% agreeing and 16.7% strongly agreeing. None stated that they disagreed or strongly disagreed. The remaining 16.7% neither agreed nor disagreed. We could infer from these data that listening to music in the background may not be as helpful in organizing ideas mentally. This could be due to some extent to the distracting factor associated with music.

Fourth, when analyzing the answers given by the experimental group to the question: "Do you agree that the background music helped you feel more committed to performing the tasks? 36.4% agreed and 25% totally agreed. On the other hand, it was found that 4.5%

disagreed and no participant totally disagreed. The missing 34.1% neither agreed nor disagreed. In contrast, the control group was asked the question, "To what extent do you agree that you felt involved in performing the task?". The data showed that a greater number of participants agreed with 66.7%. However, the percentage of participants who strongly agreed decreased to 16.7%. Likewise, the percentage of participants in disagreement increased to 16.7%. The percentage neither agreeing nor disagreeing decreased from 34.1% to 0%. This showed that although a large percentage of people do not feel more or less engaged in the activities when using background music, another large part of the participants do feel very motivated when using background music and not very motivated when not using background music. In the article written by Bolívar-Chávez et al. (2018) it is evident that by using music as a learning and teaching strategy the motivation and interest of students increases (p. 145).

4.3.2 Incidence of background music on oral and reading skills.

Then, some questions were asked to the experimental groups in which they were consulted about some basic notions about background music and also about the type of music implemented in the experiment (slow or fast) and its incidence on oral and reading skills as well. The results given by the participants are discussed below.

First, they were asked some questions containing basic notions about background music: familiarity with the background music used and the frequency with which they listen to it in the development of their academic activities. On the one hand, to analyze familiarity with the background music, the participants were asked the question: Did you feel familiar with the type of background music used in the activity? The results indicated that 43.2% of the participants agreed with the statement while 13.6% strongly agreed, which shows that more than 56% of the participants felt familiar with the background music used. Conversely,

18.2% disagreed and 4.5% strongly disagreed with the question.The remaining 20.5% neither agreed nor disagreed.

To analyze the frequency with which the participants performed academic activities with background music, they were asked the following question: How often do you use background music when performing academic activities? Analyzing the participants' responses, it was found that 34.1% always use background music when performing these activities while 20.5% usually listen to this type of music. An additional 29.5% expressed that they only sometimes use it.The remaining percentage was divided into 13.6% who almost never use background music and 2.3% who never used background music. These results seemed to indicate that a large part of our population was familiar with the background music used and that they also use background music frequently, which may have had a positive impact on the participants' perceptions of its usefulness in improving their speaking and reading skills.

Second, participants were asked certain questions regarding their perception of the usefulness of the background music on their oral and reading skills. With respect to speaking skills, participants were asked to express on a scale of 1 to 5 (from least useful to most useful) how much the slow and fast background music had helped them. Regarding slow music, 18.2% stated that it had been of very little use to them and 13.6% stated that it had been of little use to them. On the other hand, 15.9% stated that it had been very useful and 31.8% that it had been useful. An additional 20.5% said that it had been useful, but not significantly so.

In contrast, when asked about the usefulness of the fast music, the percentage of participants who stated that the background music had been of very little use decreased from 18.2% to 13.6% and the percentage who stated that it had been of little use increased from 13.6% to 18.2%. The percentage who said it had been very useful increased greatly from

15.9% to 20.5%, while the percentage who said it had been useful decreased from 31.8% to only 20.5%. The remaining percentage that stated that it had been useful but not significantly so rose to 27.3%. According to this information, it can be seen that fast background music performed better in terms of people who felt that the background music had very little or a lot of usefulness in improving speaking skills. However, slow music performed much better overall and in terms of people who said that the background music was useful to some extent.

With respect to reading skills, participants were asked to express on the same scale how useful the fast and slow background music had been. Regarding the slow music, only 2.3% stated that it had been of very little use while 4.5% stated that it had been of little use. On the other hand, 29.5% stated that it had been very useful and 38.6% that it had been useful. The remaining 25% said it had been useful but not significantly.

In comparison, fast music performed significantly worse on these skills. On the one hand, the percentage who said that the background music had been of very little help rose exponentially from 2.3% to 25%, while the percentage who said it had been of little help also rose significantly from 4.5% to 18.2%. Likewise, the percentage that said it had been very useful dropped sharply from 29.5% to 13.6%. At the same time, the percentage who said it had been useful dropped sharply from 38.6% to only 13.6%. The remaining percentage corresponding to participants who stated that background music was useful in improving reading skills but not significantly, rose from 25% to 29.5%. These data allowed us to infer that slow background music had a much more positive impact on participants' reading skills compared to fast music. This is because not only was the percentage of participants who stated that it had been of little use much lower, but also the percentage who expressed that it had been helpful was much higher.

5. Conclusions

To conclude, the data obtained in this quasi-experiment showed diverse results of the use of background music both in the oral and reading skills of the students and in their motivation in the activities. These results showed that although background music had a fair few positive effects on the students of the Bachelor's Degree in Foreign Languages of the Universidad Industrial de Santander, there were some others for whom the use of BM was neutral or even not pleasing. With respect to the background studies that were used for the development of our quasi-experiment, although we found several investigations related to the use of background music in the classroom, many of these did not include practical studies that could be taken as a guide for the realization of our quasi-experiment. However, the research that did include practical experiments indicated that the skills that benefited most from this type of music were reading and speaking skills as well as factors associated with motivation. For this reason, we decided to base our research on investigating the effects of background music on these elements in first and second-semester students of the Bachelor's Degree in Foreign Languages.

In line with the results found in previous investigations, in our quasi-experiment we were able to find that the use of background music had a few beneficial effects on the reading skills of the participants. Nevertheless, it could be observed that the use of background music had a more considerable effect on pre-intermediate participants than on intermediate participants as the pre-intermediate groups achieved an upper performance in three of the four guides. A possible explanation for the lower performance of participants in the intermediate group might be explained by Anderson and Fuller (2010) when in their article they explained that the performance of students declined when they had a preference for the type of music implemented (p. 184).

Likewise, speaking skills also benefited from the use of background music. In the words of Van Horn (2020), "the right kind of background music is usually beneficial, or at least neutral, during EFL conversation classes, so EFL teachers should consider using background music to enhance the atmosphere of their classes whenever possible and appropriate" (p. 187). It should be noticed, however, that the use of background music in our research did not have fully beneficial effects because some of the control groups performed better than the experimental groups in terms of fluency. However, it is important to note that according to the data collected, the use of instrumental and electronic music might have more positive effects compared to the use of pop and classical music. This finding suggests that the choice of the type of music could influence performance significantly.

On the other hand, when analyzing the incidence of background music on the motivation of the participants, it was found that it had a mostly beneficial effect on a large part of the test subjects, generating a greater commitment and making them feel more relaxed and comfortable. In his article, Bokiev (2018) corroborates this as he mentioned that: "the effective use of music and songs in language teaching has the potential to address multiple intelligences, reduce anxiety, increase motivation, facilitate memory retention and establish an effectively conducive learning environment" (p. 327).

As for research projections, although our research exhibited mostly favorable results, it was also very superficial, with a fairly small population and a short duration. This could indicate that a process of longer duration and with a larger number of participants that includes the use of background music in English classes could provide clearer and more tangible data on its usefulness in the oral and reading skills of the participants, as well as in their motivation. Similarly, another issue that we have not yet addressed in our research is to analyze whether the incorporation of musical genres other than those used in our quasi-experiment could generate different results, enhancing the interest of participants in the

learning activities or improving their performance in the English classroom. For that reason, we hope this inquiry is the starting point for future research processes so that the implementation of background music in different institutions in Bucaramanga can become a reality.

6. Recommendations

In order to compare the results obtained in this quasi-experiment and to achieve results that are more meaningful, we advise the implementation of an investigation that takes into account the background music at the different levels of the Foreign Language degree, including the pre-intermediate and intermediate levels as well as the higher levels.

Moreover, we leave the invitation open to the students of the Bachelor's Degree in Foreign Languages to continue with the research focusing not only on reading and speaking skills, but also on the other important skills in learning English due to the importance of investigating the possible effects of such a commonly used tool as background music.

Finally, we recommend the implementation of a quasi-experiment with a larger group of participants and with a longer duration in order to achieve results that will help to deepen the findings obtained in this research.

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Appendices

Appendix A. Experimental groups survey

Universidad Industrial de Santander Faculty of Humanities languages School Research project 1
Students of the first and second semesters of the English course in the program of Foreign language teaching BA.
Introduction of the survey
The next questionnaire is designed by Daniel Perez, Esteban Rodriguez and Malcom Pinto, 10th semester students of the Foreign Languages program. The objective of this questionnaire is to analyze the perceptions that students who are currently taking the Foreign languages with emphasis in English BA have about the implementation of background music and its effects in their motivation and engagement All the information provided through this questionnaire is completely anonymous.
Instructions.
Answer the following questions with honesty and that better relates to your opinion.
Data of the interviewee.

Data about the interviewee that are considered relevant for the investigation and analysis of the respective conditions.

A1. What gender do you identify with?

a. Masculine
b. Feminine
c. otro: _____

A2. How old are you?

a. Under 18 years old
b. 18 years old
c. More than 18 years old

A3. What semester are you currently studying?

a. First semester
b. Second semester
c. Third semester
d. Fourth semester
e. Fifth semester
f. Sixth semester

A4. Which English course are you taking?

a. Pre-intermediate
b. Intermediate

Basic notions about the background music activities.

Basic notions about the background music and the effects in the realization of the activities

1. Define how you felt doing the activities listening to background music

a. Very pleasant
b. Pleasant
c. Neither pleasant nor unpleasant
d. Unpleasant
e. Very unpleasant

2. Do you agree that you felt relaxed doing the activities with background music?

a. Strongly agree
b. In agreement
c. Neither agree nor disagree
d. In disagreement
e. Strongly disagree

3. Do you agree that using background music helped you organize your ideas

mentally better?

a. Strongly agree
b. In agreement
c. Neither agree nor disagree
d. In disagreement
e. Strongly Disagree

4 . Do you agree that background music helped you to feel more engaged in completing the tasks?

a. Strongly agree
b. In agreement
c. Neither agree nor disagree
d. In disagreement
e. Strongly Disagree

5. Did you feel familiar with the type of background music used in the activities?

a. Strongly agree
b. In agreement
c. Neither agree nor disagree
d. In disagreement

e. Strongly Disagree

6. How regularly do you use background music when doing academic activities?

a. Always
b. Usually
c. Sometimes
d. Hardly ever
e. Never

7. After having finished all the sessions, on a scale from 1 (little) to 5 (a lot) How much do you consider that **slow music** improves your reading comprehension when studying English?

a. 1
b. 2
c. 3
d. 4
e. 5

8. After having finished all the sessions, on a scale from 1 (little) to 5 (a lot) How much do you consider that **slow music** improves your speaking abilities when

studying English?

a. 1

b. 2

c. 3

d. 4

e. 5

9. After having finished all the sessions, on a scale from 1 (little) to 5 (a lot) How much do you consider that **fast music** improves your reading comprehension when studying English?

a. 1

b. 2

c. 3

d. 4

e. 5

10. After having finished all the sessions, on a scale from 1 (little) to 5 (a lot) How much do you consider that **fast music** improves your speaking abilities when studying English?

a. 1

b. 2

c. 3

d. 4

e. 5

Thanks for participating.

Appendix B. Control groups survey

Universidad Industrial de Santander

Faculty of Humanities

languages School

Research project 1

Students of the first and second semesters of the English course in the program of Foreign language teaching BA.

Introduction of the survey

The next questionnaire is designed by Daniel Perez, Esteban Rodriguez and Malcom Pinto, 8th semester students of the Foreign Languages program. The objective of this questionnaire is to analyze the perceptions of students who are currently taking the Foreign languages with emphasis in English BA have about the implementation of background music and its effects in the different language skills

All the information provided through this questionnaire is completely anonymous.

Instructions.

Answer the following questions with honesty and that better relates to your opinion.

Data of the interviewee.

Data about the interviewee that are considered relevant for the investigation and analysis of the respective conditions.

1. What gender do you identify with?

a. Masculine

b. Feminine

c. Other: _____

2. How old are you?

a. Under 18 years old

b. 18 years old

c. More than 18 years old

3. What semester are you currently studying?

a. First semester

b. Second semester

c. Third semester

d. Fourth semester

e. Fifth semester

f. Sixth semester

4. Which English course are you taking?

a. Pre-intermediate

b. Intermediate

Basic notions about the background music activities.

Basic notions about the background music and the effects in the realization of the activities

1. Define how you felt doing the activities

a. Very pleasant

b. Pleasant

c. Neither pleasant nor unpleasant

d. Unpleasant

e. Very unpleasant

2. Do you agree that you felt relaxed doing the activities?

a. Strongly agree

b. In agreement

c. Neither agree nor disagree

d. In disagreement

e. Strongly disagree

3. Do you think you could organize your ideas mentally?

a. Strongly agree

b. In agreement

c. Neither agree nor disagree

d. In disagreement

e. Strongly disagree

4. How much do you agree that you felt engaged in completing the activities?

a. Strongly agree

b. In agreement

c. Neither agree nor disagree

d. In disagreement

e. Strongly disagree

Thanks for participating.

Appendix C. First test

Universidad Industrial de Santander	**Universidad Industrial de Santander** **Faculty of Human Sciences** **School of Languages** **Trabajo de Grado 1**

About us

You don't want just a gym membership. You want a membership that means something. And that means you need support, expert help and a community.

Best Body Fitness isn't just a gym: it's a full-service fitness membership made for you.

Here's how it works:

STEP ONE: Your assessment

We begin with an assessment session. This is a chance for you to see what we do at Best Body. Our assessment plans are no-cost and no-risk. We'll also make a training plan specifically for you.

STEP TWO: Your training

When you decide to become a Best Body member, we show you what to do, how to do it and why you are doing it. After a few sessions with an expert private trainer you

will feel comfortable working out on your own. But don't worry, we'll always be nearby if you have questions.

STEP THREE: Your membership

Membership works on a month-to-month basis. There are no sign-up fees and no cancellation fees. Start and stop whenever you want. And the best part? Our fees are the most competitive in the whole downtown area.

STEP FOUR: Your community

At Best Body Fitness, we see everyone as part of a big team. And when you work with a team, you can do great things. Join any of our specialised classes, led by expert instructors. Come to our nutrition classes. Participate in our regular social events. Everything is included in your fee.

Finally, we wanted to share with you some reasons why our members say that they have chosen us over any other fitness centre in the city.

It's so EASY

- Easy to start, stop, cancel or refund a membership
- Easy to access – we're open 24/7, we never close
- Easy to do exercise – we have lots of equipment, no long wait
- Easy results – our trainers and equipment give you success, fast
- Easy to find – in the centre of town, near public transport and with parking

It's WONDERFUL

- Wonderful members

- Wonderful trainers and staff
- Wonderful equipment
- Wonderful energy
- Wonderful location

Come and visit us for a personal tour!

1. **Are the sentences true or false?**

   1. The first visit to the club is free. ____

   2. Everybody gets the same training plan. ____

   3. At this gym, you always do exercise with an expert instructor. ____

   4. If you stop your membership, you don't have to pay anything. ____

   5. This gym says it's the best value for money. ____

   6. Nutrition classes cost a little bit extra. ____

   7. The gym is open at 4 o'clock in the morning. ____

   8. The gym is outside of town. ____

2. **Open question:** What do you think about the membership offered by the Best Body Fitness gym? Would you sign up to the gym? Why? Why not?

Appendix D. Second test

Universidad Industrial de Santander	**Universidad Industrial de Santander** **Faculty of Human Sciences** **School of Languages** **Trabajo de Grado 1**

Whether you're travelling to the islands or the mountains of Thailand, you're likely to spend at least one night in its capital city on the way. Bangkok might be noisy and polluted but it's also an exciting city with plenty of things to see and do. Why not make it a longer stay?

Where to stay

The Khao San Road was a famous traveller spot even before Leonardo di Caprio's character in the film *The Beach* stayed there. But it's noisy, not very pretty and not very Thai. For something more authentic, Phra Kanong offers an alternative place to stay, with its fantastic street markets where everyday Bangkok people eat, work and live. It's not as convenient for the main tourist sites, but it has a Skytrain station so you can be at the Grand Palace in 20 minutes.

How to get around

Bangkok's traffic can be a nightmare. Sure, you can easily take a taxi – if you want to spend hours stuck in traffic jams – but there are two much better ways to get around the city. To explore the temples and historical sites, catch an express boat river taxi or a longtail boat along the Chao Phraya river and the canals. For the modern part of the city, the Skytrain is a fast, cheap way to travel from the river to the shopping malls and nightlife of Sukhumvit, and the famous Chatuchak street market.

Where to eat

The simple answer is: everywhere! Thai street food is among the best in the world, and for around $5 you can eat a filling and delicious meal. Some food stands have little plastic seats where you can sit and eat and they cook the same dish over and over, like fried chicken on rice or Pad Thai noodles. Head for Chinatown – Yaowarat Street – and choose whatever looks most interesting from the many excellent Chinese and Thai restaurants and food stands.

What to do

After you've seen the main sites like the Giant Buddha at the temple of Wat Pho and the spectacular Grand Palace, and shopped at Chatuchak market, check out the snake farm and watch the live snake show. You can even touch a snake yourself if you want to!

1. Are the sentences true or false?

1. One night is enough time to see Bangkok. ____
2. Khao San Road is an authentic Thai area of the city. ____
3. Phra Kanong is further away from the main tourist sites than Khao San Road is. ____
4. The riverboat taxis often get stuck in traffic too. ____

5. Taking the Skytrain is a faster way to see the city than going by taxi. ____

6. You need to choose where to eat carefully, as not everywhere is good. ____

2. **Open Question:**

What do you consider is the best thing you can do while staying in Thailand? Would you like to visit this country? Why? Why not?

Appendix E. Third test

Universidad Industrial de Santander	**Universidad Industrial de Santander** **Faculty of Human Sciences** **School of Languages** **Trabajo de Grado 1**

35 years ago, the worst nuclear **disaster** in history happened at the **power plant** at Chernobyl in the **former Soviet Union**. A **failed** safety test **caused** the nuclear reactor in Block 4 to become **unstable**. As a result, a **chain reaction** caused the **core** to explode.

Fire spread out over the **entire compound**. Two people were killed in the explosion, over 30 workers **officially** died of **radiation sickness**. It is not known how many people died in the months and years that followed.

The Soviet **authorities** hid the truth about the explosion and did not warn other countries. A nuclear cloud **spread** across Europe for more than a week. Almost half a million people had to leave their homes.

The accident led to a worldwide debate on the safety of **nuclear energy**. It may have also been one of the **causes** of the **collapse** of the Soviet Union a few years later.

After the clean-up, the remaining reactors at Chernobyl continued to produce electricity for some years before the whole power station was **shut down** by Ukrainian **authorities** in 2000. A **sarcophagus** was built around Block 4 to **prevent radioactivity** from escaping. In 2017 a new steel structure was built to **ensure** more safety. The whole site is expected to be completely **decommissioned** by 2065.

Today, the area is still **affected** by radiation. Even though there is a 30 km **exclusion zone** a special kind of tourism has **emerged**. People from all over the world are coming to see the **remains** of the catastrophe and observe the **wildlife** in the region. The Ukrainian **government** is planning to use the area as a site for **nuclear waste**

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Words

- **affected** = here: there is still dangerous radiation

- **authorities** = the people who are in control of a certain part of a region
- **caused** = led to
- **causes** = reasons
- **chain reaction** = event that produces more and more energy in an uncontrolled way
- **collapse** = breakdown, if something does not exist anymore
- **compound** = a set of buildings
- **core** = the central part of a nuclear reactor
- **decommission** = to stop using the power plant and tear it down
- **disaster** = a sudden event that causes a lot of damage and kills people
- **emerge** = come up, appear
- **entire** = whole
- **exclusion zone** = area that people are not allowed to enter because it is dangerous
- **failed** = something that did not work
- **former** = earlier, once
- **government** = the people who rule a country
- **nuclear energy** = the energy you create when you split atoms
- **nuclear waste** = leftover material from nuclear reactors
- **officially** = as said by the government
- **power plant** = one or more buildings that produce electricity
- **prevent** = stop
- **radiation sickness** = illness that is caused when your body gets too much radiation
- **radioactivity** = the sending out of radiation when an atom is split
- **remains** = what is left
- **sarcophagus** = here: a structure that is put over the reactor so that dangerous radiation cannot escape
- **shut down** = to close something
- **Soviet Union** = the largest communist country that existed between 1917 and 1991
- **spread** = travel, move across

- **unstable** = something that may suddenly change and become worse
- **wildlife** = the animals that live naturally ther

1. Answer the following questions with yes or no

1. Is a failed safety test the cause of the Chernobyl disaster?
2. Did the authorities hide the truth to deal with the disaster?
3. Does the sarcophagus work to prevent radioactivity from escaping?
4. Did a steel structure replace the sarcophagus in 2018?
5. Were 3 people killed in the explosion?
6. Is the Ukrainian government planning to use the disaster area as a nuclear waste site?

2. Open question:

Do you think that in the next World War they're going to use nuclear power? Why?

Appendix F. Fourth test

Universidad Industrial de Santander	**Universidad Industrial de Santander** **Faculty of Human Sciences** **School of Languages**

	Trabajo de Grado 1

A Fun Day at the Beach

Sally loved to go to the beach. She enjoyed playing in the water and building sand castles. She was excited because her family was planning a trip to the beach for the weekend. She would look for pretty shells for her collection.

On Saturday morning she got up early and gathered the things she would need at the beach. She found her swim suit, her big towel, her bucket and shovel. She could not find her camera to take pictures.

Her younger brother, Tommy, was happy too. He liked to look for unusual rocks and sand crabs. He liked to play in the water and watch the sailboats. He also loved to help his sister make big sand castles. He hoped she would take a picture of the castle when they finished it.

Sally's mother packed a lunch for them to eat at noon. Sally didn't like eating at the beach because she always got sand in her sandwich. She didn't like to eat sand. Tommy loved to eat anytime and anywhere, he was always hungry. Mother also remembered to bring the sunscreen so they didn't get sunburned. She looked in the closet for the large beach umbrella.

Their father got gas in the car and loaded all their things into the blue van. The beach was not close to their house so they left early. It was a perfect day to spend at the beach. The whole family had fun and they were very tired that evening when they got back home.

Answer the following questions with true, false or N if you don't know

1. Sally was older than her brother. _____
2. Sally loved to go to the park. _____
3. The large beach umbrella was red _____
4. Tommy was always hungry. _____
5. Sally loved eating at the beach. _____
6. The family lived near the beach. _____
7. Tommy had a collection of shells. _____
8. Sally took her camera. _____
9. Tommy and Sally did not like playing in the water. _____
10. Sally's swim suit had flowers on it. _____
11. Tommy liked to watch the sailboats. _____
12. Father drove all the way to the beach. _____

2. Open question

Have you ever been to the beach? If yes, how was it? If not, would you want to go? Why? Why not?