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Şeyda SARI YILDIRIM¹, Erdal TAŞPINAR²

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¹ Şeyda Sari Yıldırım, Necmettin Erbakan University, seydasari@hotmail.co.uk,

<https://orcid.org/0000-0001-9290-9809>

² Erdal Taşpınar, Necmettin Erbakan University, erdaltaschpinar@hotmail.com,

<https://orcid.org/0000-0001-8557-1256>

A Case Study Investigating the Impact of Music Listening on Vocabulary Development During Foreign Language LearningŞeyda Sarı Yıldırım¹, Erdal Taşpınar²**ARTICLE INFORMATION**

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Volume: 4, No: 2**Pages:** 479-494**ABSTRACT**

This study was conducted to find out the influence of music listening during study sessions on the process of vocabulary learning. The primary objective of this study was to determine the impact of listening to variety of music whilst studying the acquisition of new vocabulary, with a focus on identifying whether this practice has a positive or negative influence on the learning process. The data was collected from a sample of 20 elementary school pupils, with ages ranging from 10 to 11 years old who are studying in a public school. The students who have been chosen were engaged in the acquisition of English as a second language from their enrollment in the second grade and have been actively participating in English language instruction within the school curriculum for a duration of three years. The findings of the study indicate that individuals who engaged in vocabulary learning using flashcards exhibited varying levels of performance. Specifically, participants who were exposed to English vocabulary in conjunction with music achieved an average score of 77.6 points, whilst those who studied language in a serene environment attained an average score of 85.8 points. The results of this study strongly indicate that those who were exposed to a peaceful environment throughout their study sessions demonstrated superior performance

Keywords: Learning Types, Listening Skills, Multiple Intelligences, Studying with Music

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INTRODUCTION

The spread of communication skills in the 21st century is experiencing a state of reproduction rather than being an option to keep up with the complexity imposed by time, to cope with the many problems in social life and to be nourished by intercultural communication. In this regard, today's foreign language teaching continues to develop the ability to communicate in its activities, from transferring soft information (Deniz & Çekici, 2023).

The prevailing consensus suggests that pupils should ideally be situated in a tranquil setting when engaging in academic pursuits. Also in these settings as Ibrahim and Aydoğmuş (2023) stated the importance of the term self-efficacy comes forward and applies to individuals' belief in their ability to organize and carry out the required activities to achieve a particular goal or objective.

Both educators and parents have generally upheld the belief that children need to engage in their studies in a noise-free environment. In the library, there exists a well-established regulation mandating silence, which is prominently communicated by the presence of pervasive signage emphasizing the need for quietude. Is it truly feasible and crucial to maintain a state of silence while engaging in the act of studying? According to Patton et al. (1983), a conventional study environment for students typically consists of multiple rooms, including one with a television, one with a stereo or radio, one with the presence of other individuals, and one that is quiet. Interestingly, a significant proportion of learners express a preference for studying in noisy environments, such as while listening to the radio or stereo, or while watching television.

The perception of sound is a fundamental human feeling crucial for survival, and music, which can be described as a logically structured arrangement of sound, significantly impacts our behavior and emotions (Wright, 2014). Psychologist Frances H. Rausche has found that there is an improvement in students' performance on IQ tests following exposure to music. Additionally, the act of listening to music has been observed to have a beneficial impact on the execution of spatial tasks (Honing, 2014). The activation of neuronal systems in the brain related to pleasure and emotions is observed while engaging with music, similar to the response of the brain to stimuli such as food and addictive substances. Consequently, music has the potential to exert a significant positive influence on both our mental and physical well-being (Blood, 2001).

The primary auditory cortex (AI) is activated by the perception of auditory stimuli, regardless of their nature. When individuals perceive auditory stimuli such as speech and music, there is activation observed in brain regions beyond the auditory cortex. Moreover, during the initial stages of cortical processing, the distribution of activity in response to music, speech, and other complex sounds appears to be rather balanced between the two hemispheres (Kluender, 2006). According to Anderson and Fuller (2010), neuropsychological research has revealed that individuals engage in independent analysis of both lyrics and melodies when listening to music.

Listening consists of auditory discrimination, aural grammar, choosing necessary information, remembering it, and connecting it to the process between sound and form of meaning. Rost (2009) said that listening is an active mental ability. It helps us to understand the world around us and is one of the necessary parts in making successful communication. Sitompul (2013) stated that listening includes listening for thoughts, feelings, and intentions and this needs active involvement, effort, and practice.

Wood (2016) defines listening comprehension as “an active and conscious process in which the listener constructs meaning by using cues from contextual information and from existing knowledge while relying upon multiple strategic resources to fulfil the task requirements”. Vandergrift (2007) defines listening as “a complex, active process in which the

listener must discriminate between sounds, understand vocabulary and grammatical structures, interpret stress and intonation, retain what was gathered in all of the above, and interpret it within the immediate as well as the larger sociocultural context of the utterance”.

According to Wright (2014), the global expenditure on commercial music amounts to over \$40 billion annually, surpassing the combined economic production of 96 countries. Furthermore, the majority of individuals in developed nations engage with music daily, whether consciously or subconsciously. There exists a variation in the level of intensity associated with different forms of listening. The subject matter is categorized into three distinct groups. There exist three distinct types of listening: active listening, passive listening, and selective listening. Active hearing requires intentional and conscious efforts, while passive listening refers to a state of indifferent listening. Additionally, another form of listening is selective listening, which involves the act of listening in a discerning and selected manner (Ur, 2007).

To explain it in detail, Littlewood (1981) stated that active listening is a form of auditory communication in which listeners actively listen to the speaker and respond. It is not always that when two people are having a conversation, that each of them is listening to one another. Partially listening and partially thinking are common distractions that occur. In personal and professional interactions, active listening is one of the essential, must-have skills. It can influence the quality of work and the quality of relationships with others. To improve the active listening level, attention must be given to the other person. To improve listening skills or active listening, the other person must be able to listen to the speaker. Active listening does not mean paying attention to what the speaker is talking about, but also continuously responding in verbal and non-verbal ways. This type of listening is widely used in many situations such as community organization, advocacy, tutoring, counselling, etc.

Passive listening is where a person is listening to the speaker, however, only giving him partial attention, often distracted by something in mind or immediate environment. The person sits like a statue and does not respond to the speaker in any way. A common practice of passive listening is daydreaming while someone is talking or listening to music. The interaction may often require direct answers from listeners; however, passive listeners have eroded concentration and give a minimal verbal response. Passive listening occurs when the listener has a low level of self-motivation, little commitment and avoids the responsibility of learning and solving problems. In passive listening, the listener accepts and retains information as it is, without the intention to question or challenge the idea of improvement. It disconnects from others or shows minimal interest. In so doing the listener creates the complications for himself because at the crucial moments forgetting would be inevitable. In general, passive listening means that the listener is separated from the speaker in a way that there is no meeting of minds (Lindsay & Knight, 2006; Littlewood, 1981). Lastly, Selective listening is when you focus your attention on some specific information. It involves consciously or unconsciously choosing to listen to what is relevant to you and ignore what isn't. It is a skill that anyone can develop and improve.

Individuals possess varying motivations for engaging in the act of hearing. Some individuals derive pleasure from listening, while others seek to acquire knowledge. Specifically in the context of music, individuals may listen for the purpose of experiencing enjoyment. It is important to note that engaging in listening just for enjoyment does not inherently require the individual to retain or respond to the communicated information (Wood, 2016). According to Muslimah and Apriani (n.d.), a significant proportion of students exhibit a preference for incorporating music into their learning routine. This practice has been found to contribute to a heightened state of tranquillity and enhanced focus during the process of studying.

At times, individuals may experience a sense of limited advancement in their learning endeavours, seeing a lack of retention of crucial information despite diligent attempts. This

circumstance may potentially be attributed to the selection of an ineffective study approach (Firth, 2018). Insufficient understanding of effective study techniques or the presence of inadequate study habits is identified as a significant contributing factor to students' subpar academic achievements. The cultivation of effective study habits is a developmental process that commences at early stages of life and exerts a lasting impact on an individual's academic performance (Türkcan & Ocal, 2003). Developing effective study habits is considered to be a fundamental suggestion for successful academic performance. Consequently, the cultivation of effective study habits is contingent upon the student's self-awareness and the support provided by their educators and parents (Çulfa & Kaymak, 2019).

According to Patron et al. (1986), a significant proportion of learners exhibit a preference for studying in the presence of auditory stimuli such as television or radio. Furthermore, it is important to note that learners do not select their study environment randomly or without careful consideration. Students engage in purposeful decision-making regarding their learning settings, wherein the choice to use music as an accompaniment during study sessions may hold varying degrees of significance depending on individual preferences and inclinations. According to Roballey et al. (1985), previous research has identified that different types of music can elicit diverse impacts on behavior, emotions, and physiological responses. In his research, Roballey discovered that music had the potential to impact the rate at which individuals consume their meals. The act of engaging in the auditory experience of relaxing music prior to undertaking a job that induces stress has been observed to elicit diverse outcomes in relation to the biological stress response, as demonstrated by Thoma et al. (2013). According to Moradipannah et al. (2009), the act of listening to music prior to undergoing a large medical procedure has been found to have a substantial impact on reducing stress levels, as well as alleviating symptoms of despair and anxiety in patients. The act of listening to music has been shown to have a significant impact on producing favorable changes in mood and improving the perception of design during professional tasks. Additionally, the influence of music on work performance has been seen (Lesiuk, 2005). Moreover, the influence of music on heart rate and heart rate variability has been observed (Trappe, 2012).

As previously mentioned, the influence of music listening in various sectors is more apparent. However, while analyzing research about the impact of music on studying, it becomes evident that the findings are inconclusive and yield varying results. In their study, Anderson and Fuller (2010) sought to investigate the influence of lyrical music on the reading comprehension abilities of adolescents. The experiment was conducted under two distinct conditions: one condition involved the absence of any background music, while the other condition involved the presence of music. The results of the analysis of variance indicated a statistically significant decrease in performance when individuals were exposed to music.

The study conducted by Dodge and Mensink (2014) examined the correlation between music and memory. The study revealed that university students exhibit higher levels of recall when exposed to either pop music or quiet, as opposed to classical music. In general, the study found no statistically significant distinction between classical music, pop music, and silence. However, a minor level of significance was detected when comparing the presence of music to its absence. The study conducted by Vitasmoro and Jatmiko (2018) examined the impact of music listening on the vocabulary competency of students. Their findings indicated that the act of listening to music had an influence on the mastery of vocabulary among learners.

Cheah et al. (2022) endeavored to undertake a systematic study of prior research in order to comprehend the impact of background music on cognitive task performance. The present study analyzed 95 scholarly articles, encompassing a comprehensive set of 154 trials, which were primarily centered around several cognitive tasks. The results suggest that there remain numerous areas that have not been comprehensively examined in relation to the influence of

background music on cognitive task performance. Hence, additional investigation is necessary to acquire a thorough comprehension of this subject matter.

The existing body of research indicates that a comprehensive understanding of the effects of music on studying remains elusive. The majority of the studies involved participants who were university and high school students. It is probable that these individuals already possessed the practice of listening to music while studying or exhibited a preference for studying without music. Given the brain's inherent ability to adapt, it is conceivable that individuals may have developed a habituation to listen to music while engaging in studying activities over an extended period. This habitual practice could perhaps account for the observed irregularities in academic performance thus far. A common goal of world language teachers everywhere is to have their students use the language in their real lives and to appreciate and value cultures different from their own. Music can help to achieve these goals and can contribute to a positive language learning experience for all.

Several factors have been stated to influence (language) learning, such as motivation (Gardner & Lambert, 1972), anxiety (Horwitz, Horwitz & Cope, 1986), personality (Gardner, 1983), etc. The use of music can have an impact on many of these factors, which will in turn affect foreign language acquisition. That is why, this study encompasses a group of participants consisting of students aged 10-11 years, who are currently in the advanced phase of late childhood. Within this particular age bracket, it is plausible to consider that these students are situated at the first stages of their educational trajectory and may not have fully developed their study routines. Given that the study settings of individuals in this age group are established with the assistance of their parents and teachers, this study posits that the influence of study environments on learning may be more constrained within this age range. Consequently, it is anticipated that more dependable outcomes can be derived from this particular cohort. Therefore, a study has been undertaken on youngsters aged 10-11 years.

The objective of this study is to assess the influence of music listening during study sessions on the process of vocabulary learning. The primary objective of this study is to determine the impact of listening to variety of music whilst studying the acquisition of new vocabulary, with a focus on identifying whether this practice has a positive or negative influence on the learning process.

The following research issues will be investigated in this study.

Research Questions

- 1) Does listening to music while studying improve or make worse students' foreign language learning (vocabulary acquisition)?
- 2) Is there a significant difference in vocabulary acquisition between studying silently and studying while listening to music?

METHOD

Research Design

An experimental research design was employed in this study. The data from the pretest and post-test were assessed using a qualitative approach-based comparison analysis technique, and the resulting outcomes were analyzed via SPSS Programme. The test results were computed using a 100-point scale.

Participants

The data was collected from a sample of 20 elementary school pupils, with ages ranging from 10 to 11 years old. The participants were divided into two groups, namely the experimental group and the control group, using a random assignment method. The gender distribution of pupils was balanced in both groups, with an equal number of males and females. The experimental group included seven male students and three female pupils. The control group consisted of 7 male students and 3 female pupils. The selection of participants was conducted among pupils enrolled in a public school situated in Konya, a province situated in the middle region of Anatolia, Türkiye. The students who have been chosen were engaged in the acquisition of English as a second language from their enrollment in the second grade and have been actively participating in English language instruction within the school curriculum for a duration of three years.

The selection of all participants was conducted on a voluntary basis, and the parents of the participants provided informed consent by completing consent forms. The informed consent form furnished essential details on the study's methodology and explicitly indicated that participants had the option to discontinue their involvement in the study at any point. Participants were moreover notified that they were welcome to pose inquiries to the researchers at any given moment.

Data Collection Tools & Process

A study was conducted, employing an experimental research design, with a sample of 20 pupils within the age range of 10 to 11 years. Initially, a pre-test was administered in order to assess the pupils' existing knowledge. Subsequently, the learning phase was initiated. During the instructional period, the vocabulary items extracted from the English textbook for fifth graders were compiled into flashcards and afterward handed to each individual student.

The study participants employed flashcards as a means of acquiring vocabulary through the utilization of the spaced repetition method. Sitompul (2013) conducted a study which revealed that the utilization of flashcards has been associated with improved memorization of words, heightened student enthusiasm to acquire English language skills, and enhanced comprehension of vocabulary. According to Adrianti and Marlina (2022), the utilization of spaced repetition, a well-established memory technique, will be implemented to facilitate the review and repetition of novel phrases until a sufficient level of knowledge is attained.

The participants included in the study were allocated into two distinct categories: the control group and the experimental group. The individuals assigned to the control group were provided with instructions to engage in the process of studying the words presented on the flashcards within a tranquil setting. The duration of the learning period was 40 minutes for both groups. Following the instructional phase, a post-test was administered to the participants. Vocabulary matching tests were utilized as both a pre-test and a post-test.

The individuals comprising the experimental group were provided with instructions to commence the process of studying the vocabulary items presented on the flashcards, while concurrently being exposed to Turkish background music. In order to achieve equitable auditory access for all students, the music was transmitted over a pair of computer-connected speakers. The music's volume was maintained at a modest level in order to avoid causing disruption to the kids. During the study session, a selection of 10 Turkish songs was performed for approximately 40 minutes, with music playing in the background. The selected music genres encompass Turkish hip-hop, rock, pop, and rap. The music selection was determined by the participants' preferences for the most widely recognized songs in Türkiye.

Table 1. Music Genres (This table shows some characteristics of the music genres used in the study.)

Songs	Music Genres	Duration	Language
1	Rap	2.18	Turkish
2	Pop	2.54	Turkish
3	Pop	3.13	Turkish
4	Rap	3.06	Turkish
5	Pop	2.48	Turkish
6	Rap	3.24	Turkish
7	Rap	4.00	Turkish
8	Pop	3.07	Turkish
9	Rap	2.46	Turkish
10	Pop	3.10	Turkish

According to table 1 it is seen that two (2) music genres are played to the students. One of them is pop the other one is rap.

Analysis of Data

The data from the pretest and post-test were assessed using a qualitative approach-based comparison analysis technique, and the resulting outcomes were analyzed via SPSS Programme. The test results were computed using a 100-point scale.

Table 2. Normality Test Results

		Mean	Sd.	Min-Max	Skewness	Std.Er.	Kurtosis	Std. Er.
Silent Study	Pre-Test	46,2556	13,876	23,30-69,90	,296		,378	
	Post-Test	85,8778	14,997	56,60-100,00	-1,190	,717	,558	1,400
Study with Music	Pre-Test	40,9600	16,344	20,00-70,00	,430		-,831	
	Post-Test	77,6400	22,456	36,60-100,00	-,438		-,823	

When the Skewness and Kurtosis values of the scales are examined, it is concluded that these values are between -1,500 and +1,500 values. The fact that these values are in the range of -1,500 to +1,500 explains the normal distribution of the scales (Tabachnick and Fidell, 2013).

FINDINGS

In this section, the research data has been analyzed, presented in tabular form, and interpreted.

Table 3. Study Silently (This table includes participants who did not listen to music while studying and learning vocabulary in a quiet environment)

Participants	Pre-Test	Post-Test	Difference
1	63,3	86,6	+23,3
2	23,3	56,6	+33,3
3	46,6	96,6	+50
4	69,9	100	+30,1
5	43,3	100	+56,7
6	36,6	86,6	+50
7	43,3	66,6	+23,3
8	50,0	86,6	+36,6
9	40,0	93,3	+53,3
10	*	*	*
Average	46,2	85,8	+39,6

Table 4. Study With Music (This table includes participants who listened to music while studying and learning vocabulary)

Participants	Pre-Test	Post-Test	Difference
1	20,0	60,0	+40
2	56,6	96,6	+40
3	36,6	76,6	+40
4	36,6	70,0	+33,4
5	33,3	53,3	+20
6	60,0	100	+40
7	43,3	83,3	+40
8	70,0	100	+30
9	26,6	36,6	+10
10	26,6	100	+73,4
Average	40,9	77,6	+36,6

The participants involved in the acquisition of vocabulary silently are referred to as the control group, whereas the participants engaged in vocabulary studying while listening to music are referred to as the experimental group. During the pre-test, vocabulary studying, and post-test phases, it was observed that one male student from the control group did not adapt to the application. It was evident that his pre-test and post-test results were highly insufficient, indicating a lack of progress in the learning process. Therefore, the results of this participant were not included in the evaluation.

Prior to commencing vocabulary studying, a pre-test was administered to participants in both the control and experimental groups. The results of the pre-test indicated that both groups had similar levels of prior knowledge. The average score for the control group in the pre-test was 46,2 points while the experimental group achieved an average score of 40,9 points in the pre-test.

After the completion of the vocabulary study using flashcards, the pre-test questions that were given to the children were then delivered again as post-test questions. Based on the findings from the post-test, it was observed that the control group exhibited a significant rise of +39.6 points, resulting in a final score of 85.8 points. In comparison, the experimental group shown a lesser gain of +36.6 points, leading to a final score of 77.6 points.

Table 5. Study Silently Female Participant (This table includes female participants who did not listen to music while studying and learning vocabulary in a quiet environment)

Participants	Pre-Test	Post-Test	Difference
1	63,3	86,6	+23,3
2	46,6	96,6	+50
3	69,9	100	+30,1
Total	59,9	94,4	+34,5

Table 6. Study With Music-Female Participant (This table includes female participants who listened to music while studying and learning vocabulary in a quiet environment)

Participants	Pre-Test	Post-Test	Difference
1	60,0	100	+40
2	43,3	83,3	+40
3	70,0	100	+30
Total	57,7	94,4	+36,7

The pre-test and post-test outcomes were computed individually for male and female students. In the experimental group, the pre-test scores of female students were observed to be 59.9 points, as indicated in Table 4. Conversely, in the control group, the pre-test scores of female students were recorded as 57.7 points, as presented in Table 5. In the experimental group, the post-test scores of female students were recorded as 94.4 points, with an observed rise of +36.7 points. Similarly, in the control group, female students exhibited post-test scores of 94.4 points, with a corresponding increase of +34.5 points.

Table 7. Study Silently Male Participant (This table includes male participants who did not listen to music while studying and learning vocabulary in a quiet environment)

Participants	Pre-Test	Post-Test	Difference
1	23,3	56,6	+33,3
2	43,3	100	+56,7
3	36,6	86,6	+50
4	43,3	66,6	+23,3
5	50,0	86,6	+36,6
6	40,0	93,3	+53,3
7	*	*	*
Total	39,4	81,6	42,20

Table 8. Study With Music-Male Participant (This table includes male participants who did not listen to music while studying and learning vocabulary in a quiet environment)

Participants	Pre-Test	Post-Test	Difference
1	20,0	60,0	+40
2	56,6	96,6	+40
3	36,6	76,6	+40
4	36,6	70,0	+33,4
5	33,3	53,3	+20
6	26,6	36,6	+10
7	26,6	100	+73,4
Total	33,7	70,4	+36,7

The pre-test scores for male students in the control group were observed to be 39.4 points, as indicated in Table 6. Conversely, the pre-test scores for male students in the experimental group were recorded as 33.7 points, as shown in Table 7. In the experimental

group, the post-test scores of male students were recorded as 70.4 points, with an observed rise of +36.7 points. Similarly, male students in the control group exhibited post-test scores of 81.6 points, with an increase of +42.20 points.

Table 9. Paired Sample T Test Results

Study Type		N	Mean	Sd.	t	P
Silent Study	Pre-Test	9	46,2556	13,87670	9,094	,000
	Post-Test	9	85,8778	14,99715		
Study with Music	Pre-Test	10	40,9600	16,34477	7,032	,000
	Post-Test	10	77,6400	22,45678		

As a result of the Dependent T-Test, it is concluded that there is a significant difference ($p \leq 0.050$) between the pre-test and the post-test. Upon analysing the mean scores, it becomes evident that the post-test scores of the students exhibit an increase in both the silent working environment and the musical working environment, as compared to their respective pre-test scores. In this particular instance, it can be posited that the educational approach employed with the pupils yielded favourable outcomes using both methodologies. The statistical test findings also indicated that learning with music does not provide an impediment for students who wish to study vocabulary in foreign language.

Table 10. Group Statistics of Pre-Tests in Each Environment

	Study Type	N	Mean	Sd.	Std. Error
Pre-Test	Silent Study	10	46,2556	13,87670	4,62557
	Study with Music	10	40,9600	16,34477	5,16867

The pretest mean scores of the control and experimental groups were found to be 46.2556 and 40.9600, respectively. According to the data presented in the table, the average pre-test score of students studying in a silent setting is higher than the average pre-test score of students studying with music.

Table 11. Independent Samples Test Result of Pre-Test Results

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre-Test	Equal variances assumed	,655	,430	,757	17	,460	5,29556	6,99918	-9,47143	20,06254
	Equal variances not assumed			,763	16,954	,456	5,29556	6,93621	-9,34157	19,93268

As a result of the independent sample t-test, although the average scores of the students working in a quiet environment were high, no statistical difference was found between these two groups ($t = .757, p > .05$). This supports that the control and experimental group pretest mean scores are not statistically different from each other. This shows that the two groups are in similar conditions.

Table 12. Group Statistics of Post-Tests in Each Environment

	Study Type	N	Mean	Sd.	Std. Error Mean
Post-Test	Silent Study	10	39,6222	13,07065	4,35688
	Study with Music	10	36,6800	16,49544	5,21632

The pretest mean scores of the control and experimental groups were found to be 39,6222 and 36,6800, respectively. The high pretest results of the control group were also reflected in the posttest results.

Table 13. Independent Samples Test of Post-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Post-Test	Equal variances assumed	,033	,858	,427	17	,674	2,94222	6,88358	-	17,46530
	Equal variances not assumed			,433	16,761	,671	2,94222	6,79650	-	17,29719
									11,58086	11,41275

The independent sample t-test yielded no statistically significant difference between the two groups ($t=.427, p>.05$). This result provides evidence that there is no statistically significant difference between the means of the pretest-posttest differences in the control and experimental groups.

DISCUSSION

The objective of this study was to examine the impact of music listening on the acquisition of English vocabulary. The study focused on young participants aged 10-11 years old who had not yet developed a consistent habit of either listening to or not listening to music while studying, as it is theorised that the ability to effectively listen to music while studying can be cultivated over time.

An additional aim of the research was to investigate the potential impact of listening to music whilst studying on students' ability to employ more effective study techniques. Based on the available evidence, it can be inferred that the inclusion of music during studying does not have a detrimental impact on the process of vocabulary acquisition among students.

The study employed an experimental research design, using a sample size of 20 students who were divided into two distinct groups: an experimental group and a control group. The control group engaged in the study of English vocabulary in a serene atmosphere, whereas the experimental group conducted their vocabulary study while concurrently listening to music. Based on the findings from the pre-test, it was seen that the control group participants possessed comparable levels of prior knowledge, scoring an average of 46.2 points, whereas the students in the experimental group scored an average of 40.9 points.

The findings of the study indicate that individuals who engaged in vocabulary learning using flash-cards exhibited varying levels of performance. Specifically, participants who were exposed to English vocabulary in conjunction with music achieved an average score of 77.6 points, whilst those who studied language in a serene environment attained an average score of 85.8 points. The results of this study strongly indicate that those who were exposed to a peaceful environment throughout their study sessions demonstrated superior performance. Based on the

pretest results of the control groups and the observed substantial difference in the pretest and posttest results of both groups, it can be inferred that the act of studying while listening to music does not have a detrimental impact on the learning of English vocabulary. Dosseville et al. (2012) conducted a study examining the impact of music on learning. The findings of this study align with the present research, as the results indicate that the experimental group, which was exposed to music, achieved significantly higher scores on the multiple-choice questionnaire compared to the control group. In a study conducted by Sarikaya (2019), the impact of music-assisted reading on the comprehension abilities of Turkish university students enrolled in the Turkish Language Teaching programme was examined. Based on the findings of the study, it was concluded that there was no statistically significant impact of music on pupils' understanding abilities. Based on the findings of the interview, it was concluded that the impact of music on comprehension abilities did not exhibit any detrimental effects in various directions.

While the findings section does not explicitly state it, the data collected from the survey was analysed separately for male and female students, yielding intriguing results. The study revealed that female participants who acquired English vocabulary in a noise-free setting achieved an average score of 94.4, but female participants who acquired vocabulary while concurrently listening to music had an average score of 94.4. Based on the findings, it was observed that the act of listening to music whilst studying did not have any discernible impact on female participants. During the investigation, it was found that female participants who engaged in studying while concurrently listening to music had the ability to maintain focus on their academic tasks, despite the presence of background music.

Conclusion

To conclude Research journeys, no matter their scope or domain, eventually lead to a moment of average score of 70.4, while their counterparts who studied language in a calm setting had an average score of 81.6. The results of this study indicate that male participants who were exposed to a calm environment demonstrated superior performance. Based on the analysis of the provided data, it was concluded that the act of listening to music while engaging in studying activities evidently had an adverse impact on the male participants. The study conducted by Etaugh and Michals (1975) aimed to investigate the impact of music on reading comprehension. The findings of this study revealed that female participants exhibited lower performance in the presence of music compared to the absence of music. In both instances, the performance of males exhibited similarity.

The findings of this study indicate that there is no significant impact on students' academic success when they listen to music while studying. However, it is recommended that future research be conducted to explore the potential for learning and adaptability in studying situations involving music, with a larger sample size and a wider range of musical genres.

Limitations

This study comprises a limited number of participants (20 in total, 14 male and 6 female students). During study sessions on vocabulary acquisition, the volume of the music was kept at an average level that would not disturb the participants. It is possible that if the participants had control over the music volume, they could prefer it to be higher or lower based on their preferences. The research did not include a questionnaire to assess the participants' motivation and concentration; only observations were relied upon. Conducting a questionnaire regarding these attitudes would be more beneficial in understanding the impact of studying while listening to music on students' motivation.

Recommendations

As mentioned previously, according to some studies music can make language learning more enjoyable. Learning a new language can be challenging and sometimes even frustrating. However, listening to music in a foreign language can make learning more enjoyable and engaging and the other studies state that there is no effect of listening to music on success during language learning process. It is important that teachers first plan what their aims for using music are (e.g., promoting learner autonomy, grammar study, affect raising, language play, forming an L2 self, etc.), whom the music is by, and how the learners will respond to it. Future studies with a larger number of participants, in the participants' natural study environments, with the music volume controlled by the participants, and a questionnaire measuring the participants' motivation and concentration levels at the conclusion of the research will probably be able to produce more accurate results.

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