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Research Article

Assessing the Effectiveness of Instrumental and Lyrical Music in Developing Reading Comprehension

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Abstract: The central aim of this quasi-experimental study was to investigate the efficacy of lyrical and instrumental music in developing the reading comprehension of grade 10 students of Davao City, Philippines using the descriptive statistics and inferential statistics, specifically t-Test significant differences were assessed among groups and scores. The findings revealed that all groups had similar level of reading comprehension at the outset of the experiment. The post experiment revealed that a significant increase of score was evident in the control and experimental group, which utilized instrumental music. On the other hand, the experimental group using lyrical music, had no significant improvement in the reading comprehension scores. Implications for the educational practices and limitations of the study were provided.

Keywords: quasi-experiment; high school; students; Department of Education; Davao City

1. Introduction

Reading comprehension in the Philippines is characterized by low proficiency levels at different educational levels, which are influenced by socioeconomic conditions, resource availability, and instructional methods. It is imperative to prioritize the development of literacy programs, teacher training, and the provision of necessary materials. Interventions should prioritize enhancing comprehension skills, specifically in the areas of inference and evaluation, while also addressing gender and geographic inequities. Implementing improved instructional strategies that effectively integrate both oral reading and comprehension can significantly enhance reading outcomes (Obenza et al., 2023).

The task of understanding written texts in the Philippines poses a complex difficulty that impacts educational achievements across different levels. Research and global evaluations continuously indicate that Filipino pupils demonstrate a limited level of skill in understanding written texts, particularly in the areas of drawing conclusions and making judgments (Cabural & Infantado, 2023). In their study, Cabural and Infantado (2023) discovered that Grade 10 pupils exhibit moderate difficulty in handling literal and reorganizational comprehension, but have greater challenges when it comes to higher-order comprehension problems. Elementary students also have limited literacy abilities, which are driven by a scarcity of reading resources, insufficient teacher proficiency, and weak family engagement (Librea et al., 2023).

Socioeconomic factors and resource limitations are major contributors to the poor reading skills of students. Idulog et al. (2023) emphasize that there is a significant relationship between knowledge acquisition, prior knowledge, vocabulary, and reading comprehension, with students who possess strong prior knowledge and vocabulary displaying better comprehension skills (Tavera & Casinillo, 2020). Moreover, specific contexts such as the comprehension of Philippine fables highlight the need for targeted interventions (Federe et al., 2023). Although textbooks for Grades 7 and 8 meet educational guidelines, the implementation and teaching methods require improvement (Mangompit et al., 2022).

Disparities in reading proficiency also arise based on gender and geographic location, with males and students from La Union performing better in reading comprehension than their counterparts (Fabella & Abaoag, 2023). Classroom practices further influence reading out-comes; high-achieving classrooms often focus on oral reading performance over

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comprehension, suggesting a need for balanced instructional strategies (Protacio & Sarroub, 2013). To mitigate these issues, an initiative to develop literacy programs and culturally-relevant materials should be mandated. Additionally, interventions should prioritize enhancing inferential and evaluative comprehension skills and addressing gender and geographic disparities to foster more effective and holistic reading outcomes (Obenza-Tanudtanud & Obenza, 2023).

Prior studies have produced inconclusive results about the effects of music on reading comprehension. Research indicates that lyrical music, particularly when it is in the listener's mother tongue, can be disruptive and harmful to reading ability. One study discovered that English lyrical music had a detrimental effect on students' reading comprehension when compared to silence. However, foreign and instrumental music did not exhibit a significant difference from the silent condition (Herring & Scott, 2018). Another study found that quick and loud background music had a much greater negative impact on reading comprehension compared to slower and quieter music (Thompson et al., 2012).

In contrast, certain studies suggest that instrumental music or music in a foreign language may not impede reading comprehension and could potentially have positive effects under specific circumstances. An experiment conducted with eighth-grade students revealed that their reading comprehension ability was worse when they listened to music with lyrics that they did not prefer. However, their performance was not significantly affected when they listened to instrumental music that they favored, compared to when they were in quiet (Erten et al., 2015). Furthermore, research has demonstrated that customized background music can effectively sustain happy feelings while not impairing reading abilities. This indicates that personal preferences contribute to the influence of music on cognitive tasks (Que et al., 2020).

Moreover, the type of music and its familiarity to the listener can also influence reading comprehension. Research on Iranian EFL learners revealed that familiar non-lyrical music had a negative impact on reading comprehension, regardless of gender, and that students generally had negative attitudes towards background music during reading tasks (Kasiri, 2015). Another study focusing on Chinese and English background music found that English lyrical music significantly reduced Chinese reading efficiency and rate, particularly for students with higher English listening proficiency (Quan & Kuo, 2022).

The influence of music on cognitive tasks, particularly reading comprehension, has been discussed in various researches. However, this study aims to explore the effect of instrumental and lyrical music on the reading comprehension of students. Determining the relationship is crucial for educators and students alike, as it can pave the way in improving effective study habits and classroom environments. Integrating digital game-based learning and communicative language learning activities have also shown promise in enhancing student engagement and performance, suggesting the potential for combining these strategies with musical interventions (Obenza-Tanudtanud & Obenza, 2024; Obenza & Mendoza, 2021).

2. Materials and Methods

2.1. Research Design

This study utilized a quasi-experimental methodology known as the Pretest-Posttest Non-Equivalent Group methodology. This study comprised of two experiments: the initial experiment comprised of an experimental group exposed to instrumental music and a control group, while the second experiment contained an experimental group exposed to lyrical music and the same control group as the first experiment. The main goal was to ascertain if there was a notable disparity in the reading comprehension abilities of the two experimental groups following their exposure to distinct genres of music. Herber's Level of Comprehension was utilized to evaluate reading comprehension.

2.2. Research Subjects and Locale

The participants in the study were students in the tenth grade attending a public national high school in Matina, which is located in Davao City and is the second most populous district in the city. In total, there were ninety students who took part in the study. These students were partitioned into three groups: two experimental groups and one control group. Each group included a minimum of thirty students. The selection of the subjects was carried out through the use of purposive sampling in order to guarantee that they were all at the same average level of comprehension. This was achieved by obtaining data from their respective subject teachers. For the purpose of ensuring that the delivery of education was consistent throughout all classes, the same instructor was responsible for each and every one of them.

2.3. Research Instrument

The reading material utilized was an excerpt titled "The Stranger" by Sue Baugh (2009). The passage consisted of 701 words, and participants were given a total of thirty minutes to read the story and respond to a questionnaire of twenty items. The researcher created a questionnaire that consisted of four items to assess literal comprehension, eight items to measure interpretive comprehension, and eight items to evaluate applied comprehension. The instrument underwent validation by a panel of five specialists, and its dependability was subsequently confirmed using the Kuder-Richardson 20 formula.

The experimental groups were exposed to the instrumental music "A Little Night Music" by Wolfgang Amadeus Mozart, which was played continuously for a total duration of thirty minutes. Rauscher (2006) employed comparable music to augment memory retention and decrease learning duration. The musical ensemble, "Constant Change," constantly played the song "Constant Change" by Jose Mari Chan for the same period.

2.4. Data Gathering Procedures

The data collection process began with obtaining approval from the Division Office of the Department of Education and the Dean of the Graduate School. Following approval, an endorsement letter was sent to each participating student's principal/adviser. The pretest was then administered during the students' English class, lasting one hour and including ten minutes for class preparation, twenty minutes for a motivational exercise, and thirty minutes for reading and answering the questionnaire. Following the pretest, the intervention phase began with five sessions of musical exposure built into the lesson plans via incentive activities. The first experiment featured an experimental group exposed to instrumental music and a control group taught using traditional methods. The second experiment involved another experimental group that was exposed to lyrical music, as well as the identical control group from the previous trial. To reduce external noise, the musical interventions were carried out in a closed-off location. The posttest was conducted one month after the pretest, using the same protocol. A statistician assisted with the confidential processing, analysis, and interpretation of the obtained data.

2.5. Statistical Tools

Several statistical methods were used in the investigation. The mean was used to obtain the average of the participants' literal, interpretative, and applied reading comprehension scores. An analysis of variance (ANOVA) was used to determine whether there were statistically significant differences in the effects of instrumental and lyrical music on reading comprehension. Standard Deviation was utilized to assess the dispersion of participants' results, revealing information about the diversity of reading comprehension outcomes between groups. This rigorous statistical analysis verified the study's findings were reliable and valid, providing vital insights into the effect of background music on reading comprehension

3. Results

3.1. Pretest scores of the Experimental and Control Groups

The table 1 shows the statistical results regarding the significance of differences in pretest mean scores among the control group, experimental group 1 (exposed to instrumental music), and experimental group 2 (exposed to lyrical music) across literal, interpretive, and applied comprehension levels.

The pretest mean scores imply that the control group had an overall mean of 14.13, experimental group 1 had a mean of 14.23, and experimental group 2 had the highest mean of 14.93. However, the difference in mean scores, the p-value of 0.218 suggests no significant differences among the groups in the pretest. This indicates that all groups began with a comparable level of comprehension before any interventions were applied.

Further analysis of the individual comprehension levels exhibits similar trends. In the literal comprehension level, the control group scored a mean of 3.27, experimental group 1 scored 3.30, and experimental group 2 scored 3.20, with a p-value of 0.753. Meanwhile, the interpretive comprehension, the control group scored a mean of 5.33, experimental group 1 scored 5.67, and experimental group 2 scored 5.87, with a p-value of 0.107. Lastly, the applied comprehension level, the control group had a mean score of 5.53, experimental group 1 had 5.27, and experimental group 2 had 5.87, with a p-value of 0.346. The outcomes after the experiment further affirm that there were no significant differences in the comprehension

levels among the groups prior to the intervention, thus proving that any observed post-intervention differences could be the manifested effects of the treatments rather than pre-existing disparities.

In addition, the statistical analysis proves that the students in all groups exhibited similar levels of reading comprehension before the experimental interventions were introduced. This homogeneity across the groups ensures the validity of subsequent comparisons regarding the influence of instrumental and lyrical music on their reading comprehension skills.

Table 1. F-Test on the significance of the difference among the two experimental and control groups pretest mean scores

Reading Comprehension Levels	Group	Pretest Mean Scores	Std. Deviation	p-value
Literal Level	Control Group	3.27	.78	
	Experimental Group 1	3.30	.75	
	Experimental Group 2	3.20	.85	**.753**
Interpretive Level	Control Group	5.33	1.35	
	Experimental Group 1	5.67	1.12	
	Experimental Group 2	5.87	1.17	**.107**
Applied Level	Control Group	5.53	1.43	
	Experimental Group 1	5.27	1.26	
	Experimental Group 2	5.87	1.28	**.346**
Combined	Control Group	14.13	2.90	
	Experimental Group 1	14.23	2.08	
	Experimental Group 2	14.93	1.96	**.218**

3.2. Posttest scores of the Experimental and Control Groups

Table 2 displays the statistical findings of the levels of reading comprehension among the control group, experimental group 1 (exposed to instrumental music), and experimental group 2 (exposed to lyrical music) in relation to literal, interpretative, and applied understanding. This assessment was carried out to ascertain the influence of various interventions on the reading comprehension abilities of the students.

The results indicate that experimental group 1, who was exposed to instrumental music, obtained an average score of 17.23, placing them in the category of applied comprehension. The control group also achieved the desired level, as evidenced by their overall mean score of 16.07. On the other hand, experimental group 2, which was exposed to lyrical music, achieved an average score of 14.23, suggesting that it too reached the applied level but with a lower mean score compared to the other groups. All of the groups progressed above the lowest level of comprehension, known as the literal level.

The results reveal that students in all groups exhibited comprehension skills that surpassed the literal level, indicating their proficiency in recalling information from the text. In addition, the participants had a superior ability to comprehend and analyze the text, as they were able to go beyond the literal meaning and draw conclusions based on implicit information. This categorizes all groups according to their level of comprehension, wherein pupils not only grasp and analyze the text but also place it in context and apply the information to their own lives.

Table 2. Level of reading comprehension of the students after the experiment

Reading Comprehension Levels	Group	Mean Scores	Std. Deviation	Description Equivalent
Literal Level Comprehension	Control Group	3.63	.57	Very High
	Experimental Group 1	3.77	.43	Very High
	Experimental Group 2	3.43	.68	Very High
Interpretive Level	Control Group	6.10	1.02	High

Comprehension	Experimental Group 1	6.87	.82	High
	Experimental Group 2	5.53	1.22	High
Applied Level Comprehension	Control Group	6.33	1.09	High
	Experimental Group 1	6.60	.89	High
	Experimental Group 2	5.27	1.26	High
Overall	Control Group	16.07	1.84	Applied Level
	Experimental Group 1	17.23	1.41	Applied Level
	Experimental Group 2	14.23	2.01	Applied Level

3.3. Difference in the Pretest and Posttest scores of the Experimental Groups

The table 3 below shows the statistical results comparing pretest and posttest mean scores within the experimental groups exposed to instrumental music (Experimental Group 1) and lyrical music (Experimental Group 2) across literal, interpretive, and applied comprehension levels.

The analysis reveals a significant improvement in the overall mean scores of the Experimental Group 1 who was exposed to instrumental music from pretest to posttest. The combined mean gain score for this group is 5.81 with a p-value of 0.047, indicating a statistically significant difference. This improvement is reflected across all comprehension levels: literal (mean gain = 0.90, p = 0.056), interpretive (mean gain = 2.32, p = 0.050), and applied (mean gain = 2.59, p = 0.051). These outcomes prove that instrumental music has a positive impact to the reading comprehension of the students, enhancing their ability to recall, interpret, and apply the information.

In contrast, Experimental Group 2, which was exposed to lyrical music, did not show a significant improvement. The overall mean difference between pretest and posttest scores for this group was -1.35 with a p-value of 0.099, indicating no statistically significant difference. The specific comprehension levels also reflected this trend: literal (mean gain = 0.45, p = 0.109), interpretive (mean gain = -0.64, p = 0.118), and applied (mean gain = -1.16, p = 0.078). These findings imply that the presence of lyrics and an upbeat rhythm in the music may have distracted the students, leading to a decrease in their reading comprehension performance.

Table 3. Significance of the difference within experimental groups pretest and posttest mean scores

Paired Samples	Mean	T	Df	p-value
LitExp1Post LitExp1Pre	.90	1.99	30	**.056**
IntExp1Post IntExp1Pre	2.32	2.04	30	**.050**
AppExp1Post AppExp1Pre	2.59	2.03	30	**.051**
CombinedExp1Post CombinedExp1Pre	5.81	2.06	30	**.047**
LitExp2Post LitExp2Pre	.45	1.65	30	**.109**
IntExp2Post IntExp2Pre	-.64	-1.61	30	**.118**
AppExp2Post AppExp2Pre	-1.16	-1.82	30	**.078**
CombinedExp2Post CombinedExp2Pre	-1.35	-1.70	30	**.099**

3.4. Difference in the Pretest and Posttest scores of the Control Group

Table 4 presents the statistical results comparing the pretest and posttest mean scores within the control group across literal, interpretive, and applied comprehension levels.

The analysis indicates that the overall mean score for the control group increased from pretest to posttest by 3.74, with a p-value of 0.053. Since the p-value exceeds the 0.05 threshold, the null hypothesis is accepted, indicating no statistically significant difference between the pretest and posttest scores for the control group. This suggests that the control group's reading comprehension remained relatively stable without any intervention.

A detailed examination of the individual comprehension levels reveals similar trends. The literal level comprehension showed a mean increase of 0.710 with a p-value of 0.066, the interpretive level showed a mean increase of 1.49 with a p-value of 0.055, and the applied level showed a mean increase of 1.55 with a p-value of 0.057. Although these increases suggest

some improvement, none of the p-values indicate statistical significance, reinforcing the conclusion that there were no meaningful changes in comprehension levels for the control group.

Table 4. Significance of the difference within control group pretest and posttest mean scores

Paired Samples	Mean	T	Df	p-value
LitConPost LitConPre	.710	1.91	30	**.066**
IntConPost IntConPre	1.49	1.10	30	**.055**
AppConPost AppConPre	1.55	1.98	30	**.057**
CombinedConPost CombinedConPre	3.74	2.01	30	**.053**

3.5. Difference in the Gain scores of the Experimental and Control Groups

The table 5 presents the statistical results on the significant differences in pretest and posttest mean gain scores among the control group, experimental group 1 (exposed to instrumental music), and experimental group 2 (exposed to lyrical music) across literal, interpretive, and applied comprehension levels.

The results suggest that experimental group 1, which was exposed to instrumental music, showed the highest average improvement scores across all levels of comprehension. The average increase in scores was 0.47 for literal comprehension, 1.20 for interpretive comprehension, and 1.33 for applied comprehension, resulting in a total average increase of 3.00. The notable enhancement indicates that instrumental music had a beneficial impact on the pupils' reading comprehension.

On the other hand, the control group, which did not receive any musical intervention, shown moderate increases. The average gain scores for literal comprehension, interpretative comprehension, and applied comprehension were 0.37, 0.77, and 0.80, respectively. This resulted in an overall average gain score of 1.94. Although these gains are favorable, they are not as significant as those reported in experimental group 1.

The second experimental group, which was exposed to lyrical music, exhibited the lowest mean gain ratings, some of which were even negative. The average growth scores for literal comprehension, interpretative comprehension, and applied comprehension were 0.23, -0.33, and -0.60, respectively. This resulted in an overall average gain score of -0.70. The data indicate that lyrical music may have had a disruptive impact, diminishing the pupils' capacity to understand the reading information efficiently.

Table 5. Significant difference among experimental and control mean gain scores

Reading Comprehension Levels	Group	Pretest Mean Scores	Posttest Mean Scores	Mean Gain Scores
Literal Level	Control Group	3.27	3.63	0.37
	Experimental Group 1	3.30	3.77	0.47
	Experimental Group 2	3.20	3.43	0.23
Interpretive Level	Control Group	5.33	6.10	0.77
	Experimental Group 1	5.67	6.87	1.20
	Experimental Group 2	5.87	5.53	-0.33
Applied Level	Control Group	5.53	6.33	0.80
	Experimental Group 1	5.27	6.60	1.33
	Experimental Group 2	5.87	5.27	-0.60
Combined Gain	Control Group	14.13	16.07	1.94
	Experimental Group 1	14.23	17.23	3.00
	Experimental Group 2	14.93	14.23	-0.70

3.6. Tests of difference of Groups' Gain Scores

The table 6 presents the statistical results of the paired samples for each group,

comparing the control group with experimental group 1 (exposed to instrumental music) and experimental group 2 (exposed to lyrical music) in terms of gain scores across literal, interpretive, and applied comprehension levels.

The first paired sample, comparing the control group with experimental group 1 (instrumental music), reveals significant differences across all levels of comprehension. The p-values for interpretive comprehension ($p = 0.001$), applied comprehension ($p = 0.001$), and combined gain ($p = 0.000$) are all below the 0.05 significance level. This indicates that the null hypothesis is rejected, confirming a significant improvement in reading comprehension for the group exposed to instrumental music compared to the control group.

Conversely, the second paired sample, comparing the control group with experimental group 2 (lyrical music), shows no significant differences. The p-values for literal comprehension ($p = 0.753$), interpretive comprehension ($p = 0.107$), applied comprehension ($p = 0.346$), and combined gain ($p = 0.218$) are all above the 0.05 threshold. This suggests that the null hypothesis is accepted, indicating no significant improvement in reading comprehension for the Experimental group 2 being exposed to lyrical music compared to the control group.

Table 6. Paired sample test of groups gain scores

Paired Samples	Levels of Reading Comprehension	T	Df	p-value
Control Group VS Experimental Group 1 (instrumental music)	Literal Comprehension	.59	58	.557
	Interpretive Comprehension	3.35	58	.001
	Applied Comprehension	3.60	58	.001
	Combined Gain	4.18	58	.000
Control Group VS Experimental Group 2 (lyrical music)	Literal Comprehension	.31	58	.753
	Interpretive Comprehension	-1.64	58	.107
	Applied Comprehension	-.95	58	.346
	Combined Gain	-1.24	58	.218

4. Discussion

The findings from this study underscore the significant impact that different types of background music – instrumental and lyrical – have on students' reading comprehension. The theoretical frameworks of Arousal Theory of Motivation, Yerkes-Dodson Law, and Cognitive Load Theory provide a robust foundation for understanding these results.

4.1. Instrumental Music and Reading Comprehension

The positive effect of instrumental music on reading comprehension aligns well with the Arousal Theory of Motivation (Berlyne, 1960), which posits that an optimal level of arousal can enhance performance on cognitive tasks. The significant improvement in reading comprehension observed in Experimental Group 1, as evidenced by the improvement in mean scores from pretest to posttest (mean gain = 5.81, $p = 0.047$), suggests that instrumental music created an optimal arousal state. This facilitated better focus and processing of reading material, leading to higher comprehension levels across literal, interpretive, and applied dimensions.

This finding is further supported by the Yerkes-Dodson Law (Yerkes & Dodson, 1908), which suggests that performance improves with increased arousal up to a point, after which it declines. Instrumental music likely enhanced arousal to an optimal level without crossing the threshold that would cause distraction or cognitive overload. The study's results resonate with prior research indicating that instrumental music can enhance cognitive functions, including reading comprehension (Sofologi et al., 2022; Register et al., 2017).

The positive impact of instrumental music is further corroborated by findings from Cogo-Moreira et al. (2013), who demonstrated that music education interventions improve academic performance, more specifically, reading comprehension. Moreover, Gordon et al. (2015) found that music training enhances phonological awareness, a critical component of reading skills, although its effect on reading fluency is less clear. These studies collectively suggest that instrumental music can create a more conducive learning atmosphere that supports reading comprehension.

4.2. Lyrical Music and Reading Comprehension

In contrast, the detrimental effects of lyrical music on reading comprehension can be explained by Cognitive Load Theory (Sweller, 1988). This theory suggests that the working memory has limited capacity, and extraneous cognitive load—such as processing lyrics while reading—can hinder comprehension. The negative mean gain scores in Experimental Group 2 (-1.35, $p = 0.099$) indicate that lyrical music imposed additional cognitive demands on students, reducing their ability to focus on and comprehend the reading material.

The findings align with previous studies that have shown lyrical music, particularly in a familiar language, to be distracting and to impede reading comprehension (Herring & Scott, 2018; Anderson & Fuller, 2010; Quan & Kuo, 2022). These studies found that both favored and non-favored music with lyrics negatively affected reading performance, which is consistent with the current study's results. Thompson et al. (2012) highlighted that fast and loud background music could disrupt reading comprehension, emphasizing that the tempo and intensity of music are crucial factors in its impact on cognitive tasks.

Some studies have found neutral or mixed effects of instrumental music on reading comprehension. Herring and Scott (2018) reported that instrumental music did not significantly impact reading tasks compared to silence, suggesting that it neither helped nor hindered performance. Similarly, Sun et al. (2024) found that personalized background music chosen by students did not negatively affect reading performance and helped maintain positive emotions during reading tasks. These findings indicate that the effects of music on reading comprehension can vary based on individual preferences and the specific characteristics of the music.

4.3. Comparison of Experimental and Control Groups

The comparison between the control group and experimental groups revealed that instrumental music significantly enhanced reading comprehension compared to no music, as indicated by the paired sample tests (p-values below 0.05). Conversely, lyrical music did not show significant improvement and even had negative impacts on comprehension levels. These outcomes corroborate the existing literature that suggests background music can either enhance or impair cognitive performance depending on its nature (Thompson et al., 2012; Sun et al., 2024).

5. Conclusions

The study aimed to investigate the effect of instrumental and lyrical music on students' reading comprehension by analyzing pretest and posttest scores across literal, interpretive, and applied comprehension levels. The findings showed that exposure to instrumental music significantly enhanced reading comprehension, as evidenced by the substantial improvement in the mean scores of Experimental Group 1. This improvement was consistent across all levels of comprehension, suggesting that instrumental music creates an optimal arousal state conducive to better cognitive performance. Based from this analyzed results, instrumental music will be helpful in educational initiatives to increase mental performance. With the potential benefits of adding instrumental music to learning environments, students' academic performance will consequently improve.

Conversely, the study found that lyrical music had a detrimental effect on reading comprehension. Experimental Group 2, exposed to lyrical music, did not show significant improvement and experienced a decline in comprehension levels. The result suggests that lyrical music distracts cognitive function. Lyrics in musical backgrounds compete with cognitive resources and the sounds produced. The interrupted attention contributes to the decline of the mental process and accuracy. This phenomenon causes information processing to become less accurate, thus leading to poor comprehension.

These findings are consistent with the theoretical frameworks of Arousal Theory of Motivation, Yerkes-Dodson Law, and Cognitive Load Theory, which collectively explain how various types of music can impact performing cognitive tasks. Instrumental music enhances reading comprehension by optimizing arousal and minimizing cognitive load, whereas lyrical music distracts and overloads cognitive resources, impairing comprehension.

6. Recommendations

Based on the results of this study, the following suggestions are applicable to educators,

students, and future researchers in order to enhance reading comprehension and academic achievement.

It is advisable for educators to integrate instrumental music into the learning environment, specifically during reading tasks, as it improves students' concentration and understanding. Instrumental music provides a favorable auditory environment that enhances cognitive performance without producing any interference. On the other hand, teachers should refrain from playing lyrical music when students are engaged in reading assignments in order to minimize excessive mental strain and distraction. The lyrics of songs vie for cognitive resources required for reading comprehension, resulting in diminished performance.

Students are advised to establish customized learning environments that incorporate instrumental music if they see it to be advantageous. Gaining insight into individual preferences and reactions to various genres of music might assist students in maximizing the effectiveness of their study sessions. In addition, students should be cognizant of the music they choose to listen to while studying or reading, selecting instrumental music instead of music with lyrics in order to sustain concentration and enhance understanding.

For future investigation, this study suggests further exploration of the impacts of different genres of instrumental music on reading comprehension, in order to ascertain whether certain types of instrumental music are more efficacious than others. Furthermore, carrying up longitudinal research to investigate the enduring effects of background music on reading com-prehension and academic performance would yield more profound understanding of how prolonged exposure to various genres of music influences learning outcomes over an extended period. Moreover, doing research on the varying reactions to background music among individuals, taking into account variables such as age, personality, and cognitive capabilities, would assist in customizing educational interventions to optimize their efficacy.

Incorporating instrumental music into educational settings while being aware of the potential distractions of music with lyrics can improve reading comprehension and overall academic achievement. These ideas provide practical techniques for educators and students to establish ideal learning environments and further guide future research efforts in understanding the influence of background music on educational results.

7. Implications for Educational Practice

Supplementary According to the conclusions of the study, there are significant repercussions for educational practice. It is possible to generate ideal learning situations that improve pupils' reading comprehension by selecting appropriate auditory surroundings, such as instrumental music. Lyrical music, on the other hand, should be avoided when reading tasks are being performed in order to avoid potential distractions and increased cognitive strain. In order to maximize the aca-demic performance of students, these insights are extremely valuable when it comes to building learning environments and interventions.

8. Limitations of the Study

Although this study has made important discoveries, it also recognizes various limits. Initially, the number of participants in the study was quite limited and exclusively selected from a solitary educational establishment. This could potentially restrict the applicability of the findings to a wider demographic. Furthermore, the study had a rather brief length, only investigating the immediate effects of instrumental and lyrical music on reading comprehension, without considering any long-term consequences. Furthermore, this study failed to account for individual variations in music liking, cognitive aptitude, or previous music exposure, all of which could have had an impact on the results. The study failed to consider additional environmental variables that could potentially impact reading comprehension, such as ambient noise levels in the classroom or the physical environment. Subsequent investigations should overcome these constraints by incorporating larger and more varied samples, prolonging the study period, and accounting for individual and contextual factors to attain a more thorough appreciation of the impact of background music on reading comprehension.

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