

## PSYCHOLINGUISTICS ANGLE OF INTERACTION MODEL USING CLASSICAL MUSIC IN ESL READING

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### ABSTRACT

When introduced into English as a Second Language (ESL) reading classrooms, it has the potential to assist students in becoming more immersed in the language. The complex melodies and emotionally charged compositions characteristic of classical music have the potential to produce an atmosphere better suited to the comprehension of language in ESL reading classrooms. This mixed-method study that involved 33 students from one university in Indonesia was aimed to (1) investigate the significant difference between the mean scores of the pretest and the posttest in ESL reading using classical music and (2) describe the students' reflections on using classical music in the reading classroom. This study used pretest-posttest and students' reflection sheets as data collection instruments. The pretest and posttest results indicated that classical music significantly improved students' reading skills in ESL classrooms. The written reflections showed students were highly motivated to join the reading activity, as classical music was beneficial for enhancing students' mood and concentration, affecting their comprehension, vocabulary collection, and cognitive skills.

**Keywords:** learning experiences, classical music, ESL reading, psycholinguistics

### INTRODUCTION

Teaching ESL (English as a Second Language) reading in 21<sup>st</sup>-century learning should be lively, engaging, and tailored to the requirements and interests of the students. This Era's technical innovations and cultural shifts can be incorporated into ESL reading programs to increase their efficacy. In the 21st century, reading is essential for the acquisition of knowledge across disciplines, the development of critical thinking, and the improvement of communication skills. It is foundational for lifelong learning and success, as it empowers individuals to navigate diverse information sources and adapt to evolving technologies, thereby promoting digital literacy, cultural awareness, and empathy (Tracey & Morrow, 2024). Reading is stressed as an important skill for critical thought and digital literacy in 21st-century learning. However, there are gaps in the study of psycholinguistics that make it harder to get a full picture of the mental processes that go into reading comprehension and language acquisition. This makes it harder for educational strategies and interventions to meet the needs of modern learners.

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Students in ESL classrooms should comprehend and understand the content of their reading differently from their L1 (first language) since reading in L2 (second language) makes students aware of the instruction and mode in their target language. A study by Khajavi et al. (2022) examined the role the L2 reading mindset plays in L2 reading skills. The study's findings, which showed that L2 reading mentality might predict L2 reading outcomes above and beyond the general language mindset, confirmed the incremental validity of this theory. Furthermore, to fulfill the varied needs of students, teaching ESL reading in the modern period requires combining several methodologies and relevant reading materials.

For some reason, teaching reading for ESL students is challenging. Teachers should consider that their effort to encourage students to read is essential for both their academic progress and general language development. Therefore, a mix of good teaching tactics, creating a supportive learning environment, and encouraging students to build strong reading habits are all necessary components to effectively promote academic achievement in reading. In line with this, students sometimes face difficulty in incorporating activities that expand L2 vocabulary into instruction, with a particular emphasis on activities that focus on context and word relationships (Austin et al., 2022; Vaughn et al., 2020).

In this case, the student's language development is shown by their capability to make meaning and provide micro and macro linguistics competence to support their comprehension of the texts. Therefore, increasing reading time helps increase linguistic fluency (Kim et al., 2021; Herda et al., 2023). Individuals improve their ability to comprehend and produce language as they are exposed to various sentence structures. ESL reading is not merely reading and translating per word from L1 to L2. Students need to develop and expand their vocabulary (Brooks et al., 2021) and grammatical knowledge (Choi & Zhang, 2021) since ESL reading allows them to become proficient readers. Additionally, their language is set when they can better comprehend the complexities of language and usage when exposed to various texts, genres, and circumstances.

The problem arises when students face boredom, which causes low motivation during the reading. There are so many conditions that cause students to be demotivated by texts. In ESL reading lessons, most students lack motivation since they struggle with reading English texts. They are anxious because they believe they are the only readers who struggle to comprehend the text's meaning (Herda et al., 2023). If teachers continuously ignore this, the essence of lifelong readers cannot be applied in ESL classrooms. To foster in students a genuine enthusiasm for reading and education, the problem of students becoming bored when reading texts must be given careful thought. Furthermore, teachers should take proactive actions in the classroom. Teachers can build a culture or environment of reading that encourages students to be curious, think critically, continue their reading level, and use various inventive techniques.

Thus, traditional reading practices should be supplemented by teachers through creative teaching approaches to provide students with an environment that is both comprehensive and stimulating for learning. To fulfill this, students need to relax while reading the texts. Teachers can use classical music as a form of stimulation for students. Activities involving ESL reading can also contribute to developing critical reading abilities if they include classical music. Students reading while listening to music are encouraged to concentrate on the text despite the auditory stimulus. This helps them develop their capacity to concentrate and comprehend written information in a setting where they must perform many tasks simultaneously. A study by Rashidi and Faham (2011) examined how Mozart's Sonata can affect students' cognitive performance, such as language learning and performance. Two groups of students were investigated as control and experiment. The experiment groups showed their progress and significant results after being taught using classical music.

Additionally, it has the potential to help students become more immersed in the language when incorporated into ESL reading classrooms. Classical music's intricate melodies and emotionally charged compositions have the potential to create an environment that is better suited to language acquisition. Falcon (2017) stated integrating music into educational settings can boost students' language productivity and academic performance. A

correlation exists between listening to classical music while reading and creating a calm and concentrated atmosphere, enhancing the reading experience.

#### ESL Reading Classrooms in the 21st-Century Era

ESL reading in the 21st century is distinguished by a dynamic learning environment emphasizing real-world communication and critical thinking and integrating varied resources to cater to contemporary students' requirements (Lainema & Nurmi, 2006; Petrus & Shah, 2020). Moreover, reading settings for ESL students have developed in the 21st century to embrace technology, use various instructional methods, and emphasize communication skills applicable in real-world situations. In the 21st century, literacy continues to be an essential skill, and the significance of reading for personal and professional growth is widely acknowledged (Burnett & Merchant, 2015; Herda et al., 2023; Ratama et al., 2021). However, governments, educational institutions, and organizations still emphasize the importance of literacy programs. The ability to learn throughout one's life by reading is not restricted to traditional texts. Individuals can connect with knowledge in various ways because of the availability of multimedia content such as podcasts, documentaries, and interactive websites.

To cultivate a learning environment that is both helpful and effective for individuals who are not native English speakers, it is vital to navigate the problems present in ESL reading classrooms and embrace the available opportunities. Teachers can empower students to become effective and self-assured readers in English by addressing the diversity of languages, responsibly integrating technology, and embracing novel ways of reading education. Consequently, ESL readers can adopt multimodal learning approaches (Chia & Chan, 2017) in the 21st century. These approaches incorporate visual, aural, and interactive components into reading materials. This provides a learning experience that is more dynamic and engaging, responding to a variety of learning styles and preferences to accommodate these differences. Reading instruction for ESL students also includes overcoming obstacles and fostering equity in education (Pressley et al., 2023). Some possible barriers, including limited access to resources, variable levels of prior education, and socio-economic inequities among English as a Second Language (ESL) students, must be considered by teachers.

To ensure that all students have equal opportunities to flourish in their reading development, it is vital to provide differentiated instruction and individualized support and cultivate a helpful classroom environment. Teachers must devise creative ways to get English as a Second Language (ESL) students interested in reading. Furthermore, Herda et al. (2023) stated to teach reading effectively in the modern day, teachers must demonstrate creativity and consider the educational impact on students by incorporating technology into language acquisition. The utilization of multimedia materials can achieve an increase in students' engagement and comprehension. In addition, the incorporation of culturally diverse literature can offer English as a Second Language (ESL) students a more inclusive and fulfilling educational experience. This is because it enables them to connect with tales that reflect their own experiences while simultaneously introducing them to different cultural viewpoints.

#### **Classical Music and Its Effect on Reading Texts**

Classical music can augment the experience of reading in English as a Second Language (ESL) by enhancing focus, alleviating tension, and heightening overall pleasure for teenage students (Kobilove, 2022). The correlation between listening to classical music and cognitive ability has long been a topic of interest and debate. Studies have demonstrated that actively participating in music by acquiring skills in playing a musical instrument can enhance multiple cognitive functions such as memory, attention, and executive function (Gur, 2009; Trzesniak, 2023). Additionally, classical music's intricate melodies and complicated structures can stimulate the brain (Allingham & Wöllner, 2022). Therefore, reading comprehension requires focus. Concentration, also known as focusing on words and concepts in a text, helps them understand, analyze, and remember it. Engagement helps us understand an academic piece, work of fiction, or technical manual, leading to deeper insights and a richer experience.

Ultimately, the connection between music and achievement in reading is a complex and ever-changing field of study and application.

Although research indicates that music can benefit cognitive processes associated with reading, it is essential to consider and comprehend individual differences in literacy education (Verhoeven, 2002). Music's profound effect on cognitive skills, such as memory, attention, and concentration, has been widely acknowledged for a considerable period. Recently, teachers and academics have also examined the capacity of music to enhance students' reading achievement. The correlation between music and reading has generated significant attention, prompting inquiries into how music may be used to improve literacy advancement in individuals of all ages.

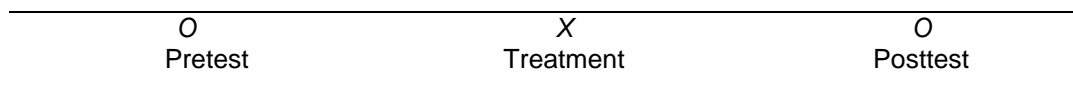
### **Psycholinguistics and Interactive Model**

The examination of the complex interaction that exists between language and the mind of a human being is the focus of the field of psycholinguistics (Fernández & Cairns, 2010; Steinberg & Sciarini, 2013). By applying this discipline to reading, we can unearth many insights into how individuals comprehend, process, and interpret written texts. Understanding the mechanisms at work during reading provides light on cognitive processes and has practical implications for education, literacy, and communication. Vaid (2014) states that language processing is an essential process of reading comprehension since our brains rapidly process the words, phrases, and sentences we read to generate meaning and understanding. However, several studies in psycholinguistics have demonstrated that proficient readers have an extensive vocabulary, practical word recognition skills, and the capacity to draw conclusions based on the context of the text they are reading.

On the other hand, individuals with difficulty reading may experience problems at various levels of language processing, which can affect their capacity for comprehension. In this case, they are expected to have a good understanding of reading by using linguistic competence. Regarding the construction process of reading schematic structure, the interaction model combines the bottom-up and top-down processing models that emphasize that students' schematic guessing and inferences in the "top-down model" need to be validated by the bottom-up model (Linyang, 2021). To put it another way, the capacity to read is contingent upon the hypothesis and the examination of many actual words and symbols. To enhance reading comprehension, students should make reasonable assumptions based on their existing knowledge and read faster. They should also engage in actual discourse and use the text to validate their assumptions, improve their understanding of the author's intended structure, help them accurately grasp the information, and align their schema with the author's intended structure.

### **METHODS**

To address research problems, researchers used mixed-method approaches to offer both descriptive and numerical data (Fraenkel & Wallen, 2009; Gay et al., 2012). This mixed-method study has an explanatory design, with the quantitative coming first and the qualitative second (Gay et al., 2012). The students' scores demonstrated the effectiveness of classical music for reading competence as numerical data. The students' written reflection also revealed their viewpoints on corporate social responsibility. In this case, the effects of classical music on the student's reading proficiency were examined quantitatively using a quasi-experimental with a one-group pretest-posttest design, where the control group was not included in this one-group pretest-posttest design. Figure 1 shows the one-group pretest-posttest design for the preliminary field testing.



**Figure 1. one-group pretest-posttest design**

In this stage, the paired sample test was used to compare the group's mean scores and determine whether a significant difference existed between the mean scores (Fraenkel & Wallen, 2009; Gay et al., 2012).

The participants of this study were 33 Indonesian students majoring in the English Department who took Reading for Academic Purposes class. In this study, the researchers distributed consent letters so participants could fill them out and agree to join the process without coercion. Based on Table 1, the participants consisted of eleven male students (33.3%) and twenty-two female students (66.7%). They were chosen using purposive sampling, known as judgment sampling (Gay et al., 2012), where researchers selected them based on their prior information using clear criteria (Fraenkel & Wallen, 2009) to make judgments.

**Table 1. Demography of Participants**

		<b>Sex</b>			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	11	33.3	33.3	33.3
	Female	22	66.7	66.7	100.0
Total		33	100.0	100.0	

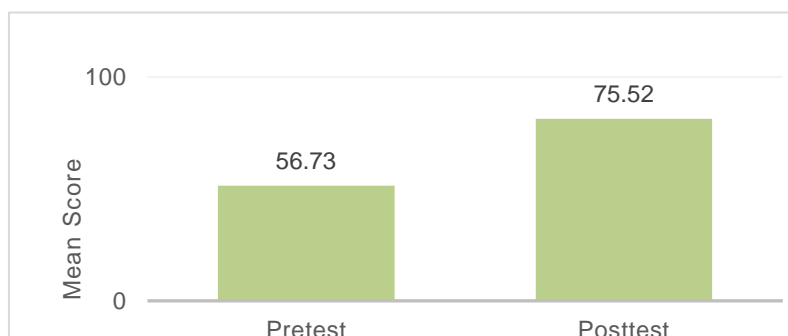
The researchers used tests (pretest and posttest) and reflection sheets. The pretest and posttest were conducted to reveal the significant effect of classical music on students' learning in reading classrooms. In the pretest, the researcher conducted the reading test in a traditional and nuanced way. Students were asked to do the test individually in 40 minutes. Meanwhile, the researcher integrated classical music during the reading test in the posttest, as the students practised in the previous meeting. The second instrument was the reflection sheet, which was used to gather the students' points of view regarding their study. This study analyzed the pretest-posttest scores using SPSS Statistics version 25. Firstly, after knowing the data were homogenous, the researchers conducted a paired samples t-test to compare the means and draw a conclusion on the first research question. Secondly, the result of the reflection sheet was used to reveal the students' perception of the reading activities using classical music. The researchers used qualitative coding to analyze the pattern of data as the procedure for classifying and arranging qualitative data in order to discern several themes and the connections among them. The selected methodology should be consistent with the way the researchers report on the coding process. Therefore, a rigorous and consistent coding scheme application, reports of inter-rater reliability, and counts of the frequency with which a code appears in the data may all be part of the analysis process.

## FINDINGS AND DISCUSSION

This section presents the findings based on the two aims of the study: (1) to investigate the significant difference between the mean scores of the pretest and the posttest in ESL reading using classical music and (2) to describe the students' reflections on using classical music in the reading classroom. A discussion then accompanies each element of the findings.

### Reading Pretest and Posttest Result: The Effectiveness

To know the effect of using classical music in the reading classroom, the researchers set a null hypothesis or 'H0: There is no significant difference between the mean scores of the pretest and posttest in the reading test using classical music (Title: *Nocturne in F Minor*). After testing the homogeneity, the result showed that the data collected were distributed normally. A parametric test employing a 2-tailed test was used here. The level of significance was set at  $p < 0.05$ . Figure 2 shows the comparison of the pretest and posttest mean scores.



**Figure 2. The Comparison of Pretest and Posttest Mean Results**

Figure 2 shows the comparison of pretest and posttest mean scores. The student's achievement in the posttest was better than in the pretest. It indicates an improvement in the mean score (18.79) after the treatment. Additionally, A paired-sample t-test was used to compare a single group's performance on a pretest and posttest. The result can be seen in Table 2.

**Table 2. Paired Sample Test**

Pretest – Posttest	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
	-18.788	7.511	1.308	-21.451	32	.000

Based on Table 2, the paired-sample t-test indicated that the increase was statistically significant,  $t(33) = -21.451$ ,  $p < 0.05$ . The Sig. 2-tailed is 0.000 and was less than 0.05, so the null hypothesis (H0) was rejected. The results showed that the students performed better in their reading proficiency after being taught using classical music. Furthermore, this was supported by the score of the t-table. The t score was -21.451, with the degree of freedom (df) 32. For Sig. 2-tailed, the result of the t-table was 1.692. The t score was more significant than the t table ( $-21.451 > 1.692$ ), so it could be concluded that there was a significant difference between the mean scores of the pretest and the posttest in reading obtained by the experimental group using classical music.

The students' reading achievement improved well after they were taught using classical music. This way, it deals with their motivation and concentration while decoding meaning. Classical music can affect emotions, cognitive functions, and general learning processes. That is why creative and reflective teachers may build dynamic and engaging learning environments that accommodate a variety of learning styles and preferences by utilizing the power of melody. Furthermore, music is a versatile and powerful technique that can improve academic achievement, emotional stability, and cognitive capacities through mnemonic devices, background music, and language immersion. It is critical to find a balance between the advantages and disadvantages of music as we investigate this relationship further to preserve music's value as an instructional aid.

For teenage students reading in an ESL context, classical music can improve the experience by sharpening focus, reducing stress, and elevating overall enjoyment, whereas actively participating in music by acquiring skills in playing a musical instrument can enhance multiple cognitive functions such as memory, attention, and executive function (Gur, 2009; Kobilove, 2022; Trzesniak, 2023). Dealing with emotion, classical music's intricate melodies and complicated structures can stimulate the brain (Allingham & Wöllner, 2022). Ultimately, the connection between music and achievement in reading is a complex and ever-changing field of study and application.

The interaction model provides a valuable foundation for comprehending the intricate and dynamic character of the reading process. Students can use both because top-down and bottom-up processing modes are proper while engaging with the text. Nevertheless, significant thought must be given to the methods the readers use to fulfill the lesson's intended outcome. Reading processing models address the text for students' second language reading comprehension, as was explained in the previous section. Higher-level processing (top-down), in contrast to lower-level processing (bottom-up), is linked to the application of prior knowledge and students' capacity to integrate semantic relations among words and sentences as part of reading comprehension activities (Li & D'Angelo, 2016). Lower-level processing comprises phonological awareness, word recognition, and vocabulary knowledge.

Understanding that the reader actively constructs meaning can help them improve critical thinking, engagement with texts, and comprehension. A significant discovery in psycholinguistics is the identification of variations in reading skills among individuals. While listening to music and reading texts, phonological awareness, vocabulary knowledge, working memory, and processing speed are all factors that can affect students' reading ability. Furthermore, comprehending these distinctions is crucial for creating customized treatments to assist readers with difficulty and improve reading abilities among various groups of people.

### Students' Reflections on Using Classical Music

In this section, the researchers provide findings and discussion dealing with students' reflections on the usage of classical music in reading classrooms. Some written reflections are shown in Figures 3 and 4.

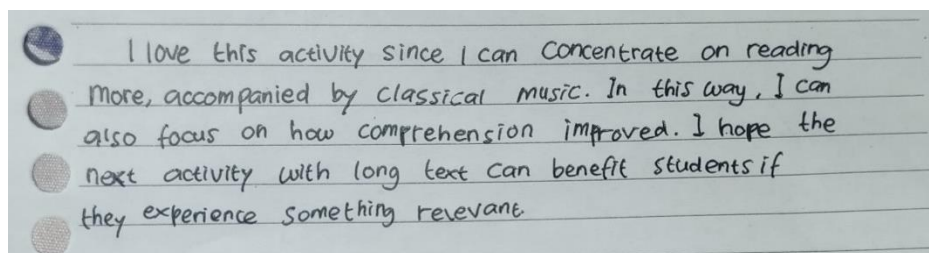


Figure 3. Students' Reflection A

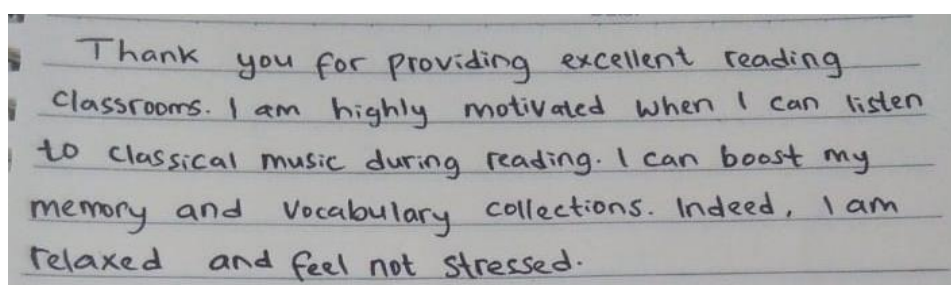


Figure 4. Students' Reflection B

Two students wrote the above reflections. From their reflections, the researchers highlighted some points. Firstly, classical music could boost students' concentration. Secondly, this kind of experience made them highly motivated since, during the reading, they could listen to relaxed classical music so they did not feel stressed. Thirdly, they could improve vocabulary collection. Furthermore, students loved and enjoyed the reading experience so much. Fundamentally, reading comprehension is challenging since it depends on the reader's ability to make sense of the text by applying what they already know about the subject matter and the text itself (Brassel & Rasinski, 2008; Greenleaf et al., 2023).

By promoting active engagement with texts, teaching students how to make predictions and inferences, and cultivating a knowledge of how textual elements influence reader response, teachers can help students become more adept readers. Teachers can encourage more profound understanding and critical thinking skills in their students by giving them the tools they need to participate actively in the reading process. Interactions between textual material and the reader's prior knowledge and comprehension are essential to reading. Cross-language transfer was identified by Fraser et al. (2016) as a possible influence that students' first language (L1) may have on the cross-linguistically correlated development of their second language (L2). Therefore, when lexical information is extracted and connected to readers' prior knowledge, word recognition in this context is crucial to the reader-text interaction.

The vocabulary collection is in line with the students' language in terms of ESL. A significant amount of research in the field of psycholinguistics highlights the value of meaningful engagement with words. The process of establishing stronger neural connections between new words and existing knowledge and experiences in real life enables readers to develop stronger neural connections, which in turn facilitates long-term retention of vocabulary and its application in a variety of scenarios. However, the combination of psycholinguistics and vocabulary acquisition results in a more sophisticated understanding of the ways in which humans acquire and make use of language (Heidari, 2022; Karakas, 2020). Teachers and students can improve the efficiency and efficacy of language learning by researching the cognitive mechanisms that are involved in the process of vocabulary acquisition and by incorporating psycholinguistic principles into instructional techniques.

## **CONCLUSION**

This study reveals that based on a psycholinguistics perspective that explores how language is understood and navigated by examining the processes of memory, attention, perception, and language comprehension, students can process language effectively while reading by listening to classical music, which is beneficial for them in boosting concentration, mood, and cognitive functions such as memory and attention. It has been demonstrated that semantic processing is an essential component of reading comprehension and forming inferences. Furthermore, the students reflected on the reading process positively, indicating they were relaxed and had advantages during reading using classical music. In this point of view, music used in education has many benefits; nonetheless, it is vital to recognize the potential difficulties and factors that may arise. However, different students may have different preferences for the types of music, the speed, and the volume, which can result in distractions rather than benefits within the learning process. By underlining the significance of personalization and individualized approaches in incorporating classical music into reading activities, it is possible that what is successful for one individual may not be as helpful for another. The researchers highly recommend using classical music for teaching reading will improve concentration, retention, and understanding. The rhythmic framework facilitates phonemic awareness and language processing, promoting a comprehensive approach to the development of literacy. Furthermore, by improving auditory processing, rhythm awareness, and language acquisition, as well as by leveraging psycholinguistic theories, reading to classical music enhances cognitive functions that are essential for the development of literacy and comprehension skills.



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