



Faculty of Cognitive Sciences and Human Development

**THE EFFECT OF MUSIC BACKGROUND AND TEXT COMPLEXITY ON
READING COMPREHENSION**

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Final Year Project Report

Masters

PhD

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**THE EFFECT OF MUSIC BACKGROUND AND TEXT COMPLEXITY ON READING
COMPREHENSION**

NUR NADHIRAH IZZATI BINTI ZAHARUDDIN

This project is submitted in partial fulfilment of the requirements for a Bachelor of Science with
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The project entitled ‘The Effect of Music Background and Text Complexity on Reading Comprehension’ was prepared by Nur Nadhirah Izzati Binti Zaharuddin and submitted to the Faculty of Cognitive Sciences and Human Development in partial fulfillment of the requirements for a Bachelor of Science with Honours (Cognitive Science).

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Grade

A-

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ABSTRACT

The present study determined the effect of music background and text complexity on reading comprehension. Forty undergraduate students were recruited to participate in the present research, and they were assigned to one of the four background music groups which were fast and instrumental, slow and instrumental, fast and lyrical, and slow and lyrical music. Further, in each group, half of the participants were asked to perform the reading comprehension task with the presence of text complexity and the other half were performing the reading comprehension task with the absence of text complexity. Results of the Mann – Whitney and Kruskal Wallis statistical tests showed that, there were no significant differences in terms of reading comprehension both across different music backgrounds and conditions of text complexity. However, the mean score from the Mann Whitney statistical test displayed that reading comprehension performance is slightly better with the absence of text complexity. Meanwhile, slow and instrumental background music showed a little benefit towards the participants while performing the reading comprehension task by gaining the highest mean score in the Kruskal Wallis statistical test.

Keywords: reading comprehension, text complexity, music background, text difficulty

ABSTRAK

Kajian ini bertujuan untuk mengenal pasti kesan muzik latar dan kesukaran teks terhadap pemahaman kepada bacaan. Kajian ini dilakukan ke atas 40 orang pelajar UNIMAS yang berada di kawasan kampus. Pelajar tersebut dibahagikan kepada empat kumpulan berbeza dengan empat muzik yang berbeza iaitu, muzik pantas dan instrumental, muzik pantas dan mempunyai lirik, muzik perlahan dan instrumental, dan muzik perlahan dan mempunyai lirik. Seterus itu, lima orang pelajar bagi setiap kumpulan akan melakukan aktiviti pemahaman yang mempunyai kepayahan teks dan lima orang yang melakukan aktiviti pemahaman tanpa kepayahan teks. Pemerhatian terhadap hasil ujian statistic yang dilakukan iaitu ujian Mann – Whitney dan Kruskal Wallis menunjukkan kesan muzik latar dan kepayahan teks adalah tidak signifikan. Walaubagaimanapun, min skor daripada ujian statistik Man Whitney menunjukkan prestasi pemahaman teks yang lebih baik tanpa kepayahan teks. Manakala, muzik latar yang perlahan dan instrumental menunjukkan sedikit keberkesanan terhadap prestasi pemahaman teks peserta dengan mempunyai min skor yang tertinggi pada ujian statistik Kruskal Wallis.

Kata kunci: kefahaman kepada teks, kesukaran teks, muzik latar

CHAPTER ONE

INTRODUCTION

1.1: Background of Study

It cannot be denied that our life is surrounded by music, the chirping of the birds, the sounds of busy roads, and even the tone of our voice is considered as music. Music is an element or sounds that have rhythm, melody, or harmony (Merriam – Webster, 2020). Learning with music has become a habit among students and this is supported by Cockrill, Sullivan, & Norbury, 2011). In this modern-day, music has evolved with so many genres from classical to pop, hip hop, rap and many more. The advanced technologies that are present nowadays make music more accessible for instance, Ipods and MP3. Not only that, the existence of music applications on mobile phones and computers such as Spotify, Apple Music, and YouTube make music easier to access. According to Lehmann and Seufert (2017), due to advances in music, learning with a music background becomes popular among students.

Learning with a musical background can be beneficial towards students' academic performance. Based on the survey research done by Antony, Priya, and Gayathri (2018), they stated music enables students to focus during learning at the same time releases or reduce their stress, therefore they perform better with their academics. A research by Holmes and Halam (2018) gives us an insight on how music improves children's ability in learning mathematics. The author explained that music helps to improve the development of spatial – memorial skills which helps to enhance in learning mathematics. However, a research done by Rajab and Pitman (2019) to see the relational between music and working memory span since the researchers believe working memory has a relationship with academic performance has a supporting and contradict result,

where only certain students can complete the memory span task given while some of them prefer with no background sounds. Based on the survey they had done, the students explained that background music is distracting while some are able to complete the task with white noise which is sound in our surroundings such as the fan. Subject to the survey's result, the selection of music plays a vital role in determining the working memory – span (Rajab and Pitman, 2019).

Meanwhile, in the context of reading comprehension, the research finding is quite similar with the above research findings. A study by Thompson, Schellenberg, and Letnic (2011) where they clarify that the changes in tempo and intensity of music may consequence the mood of the listener. In their study, they had tested 4 types of music that differ in tempo and intensity which are slow/low, slow/high, fast/low, and fast/high on reading comprehension. They found that fast and high music disrupts the students' reading comprehension. However, this is different with soft music even though the music is loud. According to Chew et al. (2016), music background has a minimal effect towards reading comprehension regardless of the music loudness, but lyrical music does interfere with the task. This study is also similar with the finding by Reed (2019), where she mentioned that lyrical music hinders reading comprehension tasks however fast music does not affect reading comprehension either with the presence of lyrics or not.

Next, when it comes to text complexity, it is very significant or closely related with reading comprehension. In the context of learning language, text complexity, and reading comprehension are some of initiatives to improve student's second language which majority is English. This is proved by a recent study by Niazifar & Shakibaei (2019) that task complexity improves reading comprehension in learning English rather than those without complexity. In the United States, text complexity has been an approach by the Common Core State Standard to enhance the student's future during college and their career (Mesmer et al., 2012). Text complexity is presence in the

syllabus since the early grade where the difficulty will be increase until the high school. There is discrepancy for the text during high school and the text during college and career (Williamson, 2008). Thus, this alternative has come to an action because as explained by Amendum et al. (2018), the graduated high school students are not prepared on text at the college level and for their careers as the impact towards the issue. The involvement of text complexity in reading comprehension enables to help elementary school students become a stronger reader by practicing it in the close reading activity (Lapp et al., 2015). Close reading is a technique that can be applied to both simple and complex texts. The technique of close reading entails in-depth analytic interpretation on the words, sentences, paragraph, and larger segments to learn more about their significance in the text (Fang and Pace, 2013).

1.2: Problem Statement

Thus, considering the research findings above, reading comprehension is a cognitive task that is complex and multifaceted (Kieffer et al., 2013). But we can see there is no one specific finding towards listening to music is beneficial or not as there is research stated that learning with music or musical background has a negative impact on learning, but there is also research that is contradict by proving a positive impact on learning including reading comprehension. However, the study of music background does not concern the text complexity of the reading comprehension material. Therefore, their result can be influenced by the text complexity a student faces while doing the reading comprehension task. Even though, music background and text complexity have positive feedback towards reading comprehension, there is a little literature review that explained on the impact of both music background and task complexity in one research especially among university students. Meanwhile, the positive impact of text complexity involved in reading comprehension tasks from the past research is to enhance the student's proficiency in English, not

to measure improvement in reading comprehension. Therefore, in order to fill the gap, a quantitative research will be held among 40 UNIMAS students concerning on the effect of music background and text complexity on reading comprehension.

1.3: Objectives and Research Questions

Objectives of study

The objective of this study is to examine the effects of music background and text complexity on reading comprehension. Specifically, the study discoursed the following objectives:

- I. To examine if there are any significant differences in terms of reading comprehension across different types of music background (Fast and instrumental music, fast and lyrical music, slow and instrumental music, and slow and lyrical music).
- II. To examine if there are any significant differences in terms of reading comprehension across text complexity (With complexity and without complexity)

Research Questions

- I. Do different types of music background affect learner's reading comprehension?
- II. Does text complexity affect learner's reading comprehension?

1.4: Conceptual Framework

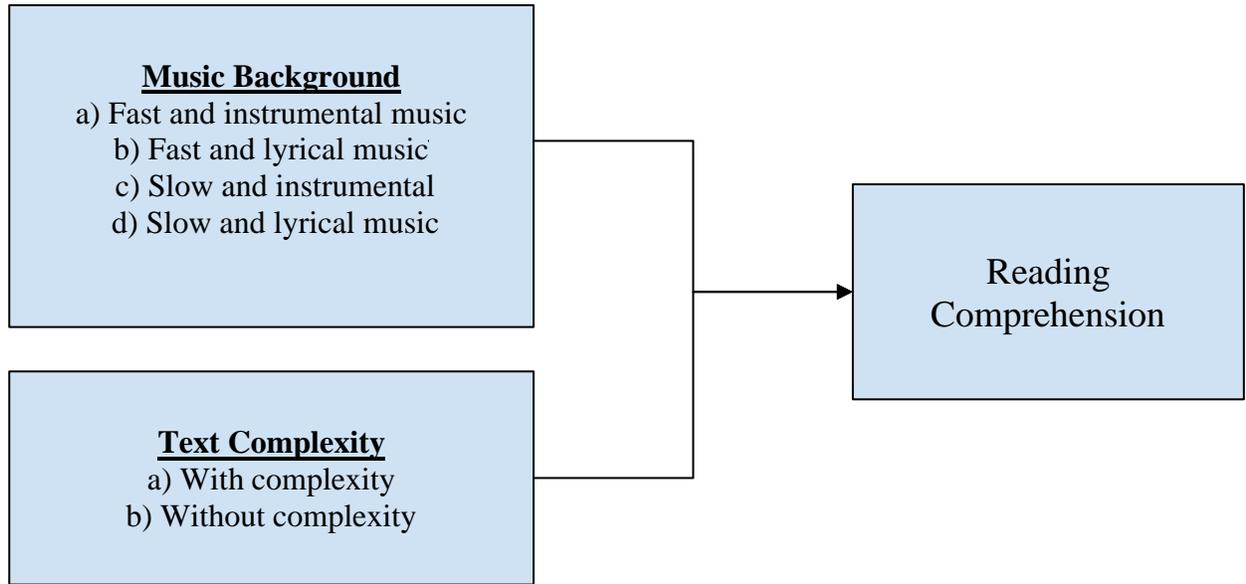


Figure 1: Conceptual Framework

1.5: Limitation of Study

The limitation to conduct this study is due to the COVID-19 – 19 pandemics, some fewer students are available inside campus. Therefore, the actual number of participants needed to be reduced to continue this study. Other than that, to conduct this study, Standard Operation Procedure (SOP) that has been stated by the Ministry of Health needed to be follow which are, keeping a 1-meter distance and wearing a face mask. Thus, limited number of participants can be held in one session. Furthermore, room facilities that are provided by campus also cannot be utilized since the campus is not operating. Hence, a college facility room is used as an alternative by asking the permission from the Bunga Raya College management.

1.6: Definition of Terms.

Reading Comprehension

a) Conceptual Definition:

According to Kintsch (1998), reading comprehension is a process of creating meaning from a text.

b) Operational Definition:

Reading comprehension is a task and process of creating meaning based on our read. In the present study a reading comprehension will be measured using a reading comprehension test that consist of 10 multi - choice questions.

Music Background

a) Conceptual Definition:

Any type of music when someone is performing a task so that the person does not actively attend to it (“Music background”, 2020)

b) Operational Definition:

Music background is a sound or music which is not the primary focus of the listener. In the present study, participants will be exposed to either one of these four types of music. (Fast and instrumental music, fast and lyrical music, slow and instrumental music, slow and lyrical music).

Text Complexity

a) Conceptual Definition:

Mesmer et al. (2012) defined text complexity as the factor or element on a text that can be analyze, study, or manipulate.

b) Operational Definition:

Text complexity is a level of difficulty in a text depends on the element or factor that present in the text. In this study, a text with highlighted nouns is given to the participants where they need to give the meaning of the nouns while reading the text to study the effect of text complexity on reading comprehension

CHAPTER TWO

LITERATURE REVIEW

2.0: Introduction

This chapter will discuss the previous works of literatures regarding on music background and reading comprehension, text complexity in reading comprehension, and other related theory or model which is cognitive capacity

2.1: Discussion of Issues Related to The Topic

2.1.1: Music Background and Reading Comprehension.

The implementation of music background as the aid in learning has been stated useful among students. According to Črnčec, Wilson, and Prior (2006) learning with music enables to create a learning environment that is motivating and conducive which brings many benefits towards the learning process. Meanwhile, a study that was done by Rome (2018) where he analyzed the involvement of songs towards elementary students' engagement in learning social science has found that students are more engaging with the presence of songs. Besides, the result also shows that learning social sciences with songs builds up the students' literacy skills. Therefore, due to that, learning with music does have a positive impact in students learning and beneficial for their success (Rome, 2018). Furthermore, music background also has a vast advantage towards learner's cognitive functions and tasks. Campabello et al. (2002) had done a project where they wanted to implement musical strategies that affect and enhance learning which more focusing on recall and memory. This is because they found that student's having the difficulty to understand the concept and lack of the ability and desire to learn. Thus, from their study, they have found that music does improves student's ability to recall the learning materials Next, music also increases

the student's IQ and improves their reading and mathematics ability. Music who is exposed to music also have high brain functions which promotes their higher other thinking skills (Campabello et al. 2002). Thus, they mentioned that this enables to students to learn better and the students also able to apply or transfer the skills in other subjects and their daily life.

However, apropos to reading comprehension, different researchers have a different points of view. A research by Gillis (2010) has found that music does not affect towards reading comprehension compared to those who did the task in the silence condition even though the participants stated that music does distract them. However, this result that researcher gained could be due to the time given to the participants which has caused them to be restless and start to wander around. Therefore, this affected the participants performance and directly affect the study results. This also supported Chen and Wen (2015) in their study in looking at the effect of music background towards reading comprehension and music competition in terms of gender. They have found that music background does not has any effect on reading comprehension. But both researchers mentioned that in terms of gender, female has better performance in reading comprehension with a soft music is playing at the background, while, in terms of mathematical computation, it does help the participants to do the task better with music background is playing in the environment (Chen & Wen, 2015).

In the meantime, music background also beneficial towards students learning comprehension (Studi et al., 2014). Thompson et al. (2011) stated in his finding on comparing between fast and slow music that fast music likely to disrupt the reading comprehension task rather than slow music which advantageous towards reading comprehension task. This situation is further explained by Herrmann (2010) where applying calming music background in educational environment produces

variety of positive physiological effect where the students feel more relaxed and focused. This leads to a high span towards task which directly leads to better academic performance. Moreover, Thompson, Schellenberg, and Letnic (2011) also mentioned that the effect of background music is influenced by 2 factors which are cognitive – capacity hypothesis and arousal – mood hypothesis that occurred while doing the task. On the contrary, Reed (2019) has discovered a new finding that is differed than the past research. In her study, she mentioned that lyrical music or songs does impact the reading comprehension task due to the lyrics that are presence caused interference towards the task the participants are doing which contradict with the finding of (2016) where lyrical music does not effects learning task. Surprisingly, she found that fast music regardless with or without lyrics does not have detrimental effect towards reading comprehension (Reed, 2019). This could be likely due to the effect of music background towards reading comprehension is depending on the characteristics of the music (Kampfe, Sedlmeier, & Renkewitz. 2010). However, Reed (2019) also suggest in her study that a further research on the characteristics of the music is needed.

To sum up, most of the research only comparing two characteristics of music such as fast and slow music or lyrics and without lyrics music. Therefore, in this study, the combination of all the characteristics of music from the past research will be done which are fast and instrumental music, slow and instrumental music, fast and lyrical music, and slow and lyrical music. This is due to explore on which exact type of music effected reading comprehension task.

2.1.2: Text Complexity in Reading Comprehension

The application of text complexity in reading comprehension is depending on what goal to achieve in students. However, the implementation of text complexity in reading mainly have the same purpose which is to improve the reader's reading proficiency since it is believe reading is lifelong learning process and text complexity could help in the growth of reader's reading ability (Lapp et al., 2015). In fact, different country has their own approach to apply text complexity in the curriculum. For instance, the country in the European implements text complexity by using Common European Framework of Reference for Language (CEFR). The document avoid using the terms of text complexity or text difficulty, instead they use the term 'language complexity' or task difficulty and the framework also involve guideline for every level of CEFR (Natova, 2019). The Council of Europe (2001) states that these are the important text characteristics in text evaluation which are the linguistic complexity, text type, discourse structure, physical presentation, and the length of the text. They also further explained that these elements are used to apply and determined the language complexity of a text material. Meanwhile, the linguistic feature and the text structure where they focus on the pragmatic aspect for every level of CEFR is referred to the CEFR scale as a guideline (Council of Europe, 2009). However, the CFER scale is lack of specificity and it also does not focus on the text and the characteristics itself (Natova, 2019). The researcher further explains that it leads to the constraint of CEFR in defining text complexity since it preferable on the development of reading and reading behavior at every developmental stage.

On the contrary, Natova (2019) also mentioned that Cambridge Assessment produces examinations which has 6 different levels than CEFR where it is specifically for EFL or known as English as a Foreign Language. Alderson (2000) explains that the test usually provides a reading

comprehension section where the students need to give the attention to find out the information as well as the understanding of language such as vocabulary, determiners, verb forms, and pronouns. Unlike CERF, Cambridge Assessment uses handbook for the teacher to decide the characteristics of reading comprehension text, for instance, they look on grammatical structure what level of student's proficiency is necessary so that the students able to comprehend the reading text and answer the writing section.

Furthermore, whereas in the United States, the Common Core State Standards (CCSS) has been introduced by National Governors Association Center for Best Practices (NGACBP) and Council of Chief State School Officer (CCSSO) in 2010 (Amendum et al., 2015). It is aimed for students from elementary until high school to read more complex text as a preparatory for the challenges of college and workforce. Fisher et al. (2012) explained that there a lot of suggestions where students as young as elementary school should be exposed to engage with complex text. Lapp et al. (2015) mentioned that the text complexity is a level of challenge that is provided by a text by taking into the consideration of the qualitative and quantitative aspect of the text, as well as reader and task variable. The Common Core State Standard Initiative (2010) describe the qualitative measure is about the purpose, structure, and knowledge demands of a text and the prior knowledge that is required by the reader to apprehend the text. This aspect similarly explained and supported by Valencia et al. in 2014, however they have added on that qualitative aspect is a component that can be measure on attentive readers such as level of meaning and language. The complexity of a text in a reading comprehension can be measure or set in three levels which are surfaced – based level, text – based level, and situation – based level (Tseng et al., 2015). They further explained that surfaced – based level is where the student only has a sufficient level of vocabulary and grammar knowledge to decode and construct the meaning of sentence. Student in