University of Southern Queensland

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Essentials for Professional Scientists

LITERATURE REVIEW: What is the Impact of background music on learning in Primary School Students?

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LITERATURE REVIEW

This section features the literature review of all literature surrounding the research question, What is the impact of background music on learning in primary school students?

1.1. Introduction

The impact of background music on learning in primary school students have gained attention and has widely prompted educational research. Research has shown that emotional connection created by music can enhance memory retention and that same emotional connection that music creates can improve motivation and engagement, making it easy to remain focused when learning and retain information (Laren 2023). Historically, music has been an essential part of education since the 1700s (Hargrove 2022) and have since been said to play a key role in strengthening the academic and social-emotional skills of children (Korbey 2022).

Music has the power to evoke emotions and can significantly impact learning and there is a plethora of studies focusing on the effect of background music on the cognitive task performance and behaviors of primary schoolers. (Falcon 2017) suggest that background music enhances mood and concentration, (Dong et al. 2022) argued that it is distracting especially for introverts and children with ADHD. This review aims to justify the impact of background music on learning in primary school students by examining the various findings of current studies and exploring the various conditions under which background music can have a positive or negative effect on learning. The selected literature will encapsulate the broadness of this topic and facilitate its understanding.

1.2. Literature Review and Definitions in use

Studies in the past have focused on the impact of background music on mood while others have explored its effect on elementary students' focus. (Hargrove 2022) provides a historical context to music in education and (Falcon 2017; Hargrove 2022; Koolidge & Holmes 2018) cited (Rauscher, Frances H., Shaw & Ky 1993) to highlight "the Mozart effect" that suggests that listening to Mozart enhances cognitive performance. (Falcon 2017) references (Mullikin & Henk 1985; Wiley-Khaaliq 1990) among others to explore the relationship between background classical music and reading comprehension, (Yuan et al. 2023) explores the effect of background music on alertness of children, (Dong et al. 2022) integrates Chinese pop to see how it affects reading comprehension and (DiDomenico 2017) studies the effective integration of music into elementary classrooms.

The definitions in use with these studies vary but are important for the understanding of their findings. (Hargrove 2022) defines background music as music that is played while students work, be it live or recorded and productivity is measured by student self-reports. (Falcon 2017) defines reading comprehension as a way of decoding and creating meaning through interacting with written language. (Yuan et al. 2023) measures alertness through electroencephalography (EEG) and observation of behavior. (Dong et al. 2022) defines reading comprehension as creating a mental picture when interacting with written language, specifically in students with ADHD. (DiDomenico 2017) uses Gardner's theory to define musical intelligence as being able to recognize and compose musical tones, rhythms and pitches. (Koolidge & Holmes 2018) suggest that tasks are completed efficiently under different music conditions.

1.3. Methods and Methodologies

The studies make use of varying methodologies, each within a unique context and featuring different age groups. (Hargrove 2022) studies 21 first graders using surveys and videos to learn about their feeling towards live and pre-recorded background music and how it shapes their efficiency. (Falcon 2017) studies 1,000 seventh and eighth graders, classifying them into experimental and control groups and employing the use of t-test and a Likert scale to measure the relationship between background music and test anxiety. To examine off-task behaviors under different conditions, (Yuan et al. 2023) studies 36 students and decodes their EEG recordings to draw conclusions. (Dong et al. 2022) utilizes Chinese pop as background music in reading comprehension by 129 first graders diagnosed with ADHD while (DiDomenico 2017) investigated how music can be integrated in elementary classrooms using surveys, interviews and observational notes to develop their findings. Under three background music conditions, (Koolidge & Holmes 2018) studies how fast 87 children can assemble a 12-piece puzzle.

1.4. Findings, Synthesis and analysis

Notably, the studies provided individual findings into the research question. (Hargrove 2022) found that background music does improve productivity to an extent and highlighted the students' preference for live music (piano, ukulele) as opposed to pre-recorded music (Spotify). The strength of this study lies in its mixed-methods approach however the small sample size limits its general applicability. (Falcon 2017) confirmed some aspects of the "Mozart effect" but provided mixed results by also highlighting the complexity of the impact that background music has on cognitive task performance. (Falcon 2017) features a very comprehensive sample size and data collection but has the weakness of inconclusive results. (Hargrove 2022) and (Falcon 2017) offer some positive statements about background music's

impact on productivity and reading comprehension, respectively but not without the uniqueness of varying grade levels and students' individual preferences.

(Yuan et al. 2023) found that the alertness of the children was higher in a no-noise condition where background music was not featured, suggesting that a quiet classroom may be best for the pupils' attention. The strength of this study lies in its use of electroencephalography (EEG) for observational research. (Dong et al. 2022) found that background music that are familiar have a negative impact on the reading process of the pupils as opposed to unfamiliar background music. (Dong et al. 2022) and (Yuan et al. 2023) both highlight the potential of background music to cause distractions within the context of children's alertness and in students in ADHD indicating a limit to their general application despite their comprehensiveness and detailed variable control. (DiDomenico 2017) concluded that music is a useful tool in the educational sector and it highlights the need for teacher preparedness. The strength of this study lies in its practical suggestions and comprehensive review. It also highlights the benefits of integrating background music in elementary schools to enhance student concentration and learning process, aligning with the positive aspects of background music noted by (Hargrove 2022). Under the "background music with no lyrics" condition, (Koolidge & Holmes 2018) found that students were more productive compared to the absence of background music and the presence of lyrics in the background music. The study exudes strength in its clear methodological approach and the provision of practical suggestions for the educational setting.

1.5. Conclusion

The literature review demonstrates how the research question, "what is the impact of background music on learning in primary school students?" is a broad topic and that research into the impact of background music on learning, generally can take different approaches and feature varying aspects.

Studies by (Hargrove 2022) and (Falcon 2017) highlight the positive effects that background music has on productivity and reading comprehension, respectively while (Dong et al. 2022) and (Yuan et al. 2023) denote potential the distractions brought about by background music within the context of striving to maintain alertness and in the reading of comprehension by students with ADHD.

The impact background music has on learning varies and it can be influenced by factors such as the type/ selection of music, the nature of the task and the individual characteristics of the students. This research question is relevant as it Attempts to address the practical issue that are faced by both educators and students. As (DiDomenico 2017) noted, music can indeed be a useful tool in education if effectively

integrated with the appropriate considerations in place. Understand the impact of background music on learning will not only provide practical implications for schools but can also help create more conducive learning environments. (Koolidge & Holmes 2018) also suggests that's completing tasks under different music conditions can provide practical insights for use you know dictation or setting.

The studies provide a well-rounded research into the impact of background music on cognitive tax performance and behavioral outcomes contrasting studies like (Geist, Geist & Kuznik 2012; Rauscher, F. H. 2001; Standley 2008; Zentner, Eerola & Purves 2010) that show how music education have a greater influence on the academic success of students as opposed to just learning with background music. The findings of the studies suggest future research to fully understand under what conditions students can benefit from background music and providing insightful implications for the use of music in educational context.

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