

Southeastern University

FireScholars

Selected Student Publications

Spring 2024

The Effects Of Background Music on Productivity In Classrooms

Trinity Carter

Southeastern University - Lakeland, trinnn31@gmail.com

Follow this and additional works at: <https://firescholars.seu.edu/ssp>



Part of the [Cognition and Perception Commons](#), [Cognitive Psychology Commons](#), [Experimental Analysis of Behavior Commons](#), [School Psychology Commons](#), and the [Social Psychology Commons](#)

Recommended Citation

Carter, Trinity, "The Effects Of Background Music on Productivity In Classrooms" (2024). *Selected Student Publications*. 4.

<https://firescholars.seu.edu/ssp/4>

This Term Paper is brought to you for free and open access by FireScholars. It has been accepted for inclusion in Selected Student Publications by an authorized administrator of FireScholars. For more information, please contact firescholars@seu.edu.

The Effects Of Background Music on Productivity In Classrooms

Trinity Carter

Department of Psychology, Southeastern University

PSYC 4093: Psychology Capstone Seminar

Dr. Rosalind Goodrich



Table of Contents

Abstract.....	4
The Effects Of Background Music on Productivity In Classrooms.....	5
Chapter 1: Introduction.....	5
Music and Academic Performance.....	5
Purpose of Study.....	6
Research Question and Hypothesis.....	6
Operational Definitions.....	7
Significance of the Problem.....	7
Chapter 2: Literature Review.....	8
The Effect of Background Music on Productivity.....	8
Definition of Key Concepts.....	8
<i>Background Music</i>	8
<i>Mozart Effect</i>	9
<i>Productivity</i>	10
Measuring Key Concepts.....	11
<i>Background Music</i>	11
<i>Productivity</i>	12
Research Findings.....	13
Existing Gaps and Limitations.....	15

Chapter Three: Methodology.....	17
Introduction.....	17
Participants.....	17
Setting.....	17
Instruments.....	18
Procedures.....	18
Data Processing and Analysis.....	19
Chapter 4: Results.....	20
Chapter 5: Discussion.....	21
Conclusions.....	21
Limitations and Future Directions.....	21
References.....	23
Appendix A.....	26

Abstract

This paper examines how background music influences productivity in classroom settings. Thorough research has shown that music does stimulate the brain (Rickard & McFerran, 2011) but due to limitations in research, a general consensus on how it affects a person's productivity cannot be drawn (de la Mora Velasco & Hirumi, 2020). The study attempted to address the limitations noticed across multiple studies: (1) specification of how background music is manipulated during the study (2) number of participants (3) testing only in educational settings and (4) effects of background music on conceptual learning. It was expected that background music would be an aid in increasing students' productivity in classrooms. While the results of the study showed no statistical significance, most students appreciated the background music.

Keywords: background music, academic performance, focused attention

The Effects Of Background Music on Productivity In Classrooms

Chapter 1: Introduction

Music and Academic Performance

Research has shown that music stimulates the brain (Hallam & Godwin, 2015), and it has been a question whether background music can improve attention performance and productivity. Specifically, research has been conducted to see if background music helps students remain focused in the classroom or while doing homework (Hallam & Godwin, 2015). Results on whether background music can increase productivity and attention performance have shown that music can keep students from distracting each other and increase on-task performance (Homann et al., 2012)

Background music has been used as a tool in classrooms for students with intellectual disabilities (Hattaway, 2002). The students' anxiety levels were decreased, allowing them to be more willing to engage with peers and teachers while the background music was playing (Hattaway, 2022). Although background music has been implemented in classrooms with special needs students, it is not generally used in regular classrooms. Further research is necessary to determine if background music would be an effective tool in regular education classrooms (Črnčec et al., 2006).

Current research suggests that music could increase satisfaction during tasks, while not significantly influencing task performance (Shih et al., 2012). Certain limitations such as specifying how the independent variable is manipulated during the study and the number of participants in a study, have led to results being inconclusive in this body of research (de la Mora Velasco & Hirumi, 2020). Further research needs to be done on small-scale classrooms to show

repetition of results (Aheadi et al., 2010). One of the problems with generalizing the effects of background music is that every student is different, but repetition of results across different school districts and cultures may provide sufficient generalization data to support the use of background music in classrooms.

In a review of thirty recent studies, de la Mora Velasco & Hirumi (2020) concluded that the testing of background music and productivity in future studies need to be more specific on how background music is manipulated during the experiment and examine background music effects on conceptual learning. Overall, background music effects on productivity needs more research.

Purpose of Study

The purpose of this study is to add research in an area that is lacking by addressing some of the limitations observed in previously done studies. Background music has long been theorized to aid in productivity from helping students complete homework to keeping employees on task, but it lacks the empirical research necessary to be supported by science (de la Mora Velasco & Hirumi, 2020). The present research study assessed how background music affects middle school students in the class. It examined the overall quality of the work while background music is playing, and tested how background music affects creative writing productivity .

Research Question and Hypothesis

The research question is “What impact does background music have on measures of student productivity?” The alternative hypothesis is that background music helps to increase productivity in a classroom setting. The null hypothesis is that background music has no effect for students in a classroom setting.

Operational Definitions

Previous research has found that background music without lyrics seems to be the least distracting of people's attention (Shih et al., 2012). The background music used in this study was classical piano without lyrics played at a low volume to fill space without requiring the student's attention. Student productivity was operationally defined through standardized rubric scores completed by multiple raters.

Significance of the Problem

The current generation of students has experienced the integration of technology in every setting – including the classroom – more than any generation previously. There is so much stimulation going on and most children's (and adults) brains have many immediate sources of stimulation available for their attention; the television will be playing while they scroll on Instagram, for example.

In children with intellectual and learning disabilities, background music helps them be more productive with tasks and engaging with teachers and peers because it assists them in remaining calm (Hattaway, 2022). Background music allows these students to be stimulated by the calming music, which regulates their emotions, and helps them remain productive. In special education classes, music is often used as a form of therapy to keep the classroom from being overstimulated and acting out of control (Hattaway, 2022). Background music may serve the same purpose for students in regular education classes. Students, especially those at younger ages, can have trouble staying on task during independent work in school – this problem can be addressed if they have an external distraction designed to keep them on task and keep them from distracting others.

Chapter 2: Literature Review

The Effect of Background Music on Productivity

Music being integrated into people's everyday lives is not something that is new. Students often use background music to keep them on task while studying. Music plays in retail stores, restaurants, people listen to music together, in their cars, and during meditation. Music has been implemented into almost every (if not every) area of people's lives because it enhances experiences. The question is: Does it make people more productive?

Previous research has shown that music can help students stay on task and even feel motivated to complete the work that they are given (Dabiran et al., 2017; Črnčec et al., 2006).

On the other hand, research has been inconclusive and has multiple limitations that have prevented generalizations from being accepted in the past related to background music and productivity (de la Mora Velasco & Hirumi, 2020).

Definition of Key Concepts

Background Music

Music is used in two forms - primary and secondary stimulus. As a primary stimulus music is used to provide an experience for people, while as a secondary stimulus it is used to further engage and evoke emotion for listeners (de la Mora Velasco & Hirumi, 2020). The greatest example of music as a secondary stimulus is within movies, tv shows, and other entertainment. When watching a movie and one of the characters goes through a heartbreak or experiences loss, it is likely that the music will be melancholy to match the mood of the scene. The music adds to the overall experience of the scene and can sometimes lead people to tears.

Background music in this specific body of research is used as a secondary stimulus. When music is used as a secondary stimulus, research has found that it can lead to the overall improvement of concentration and on-task behavior, and satisfaction with the work environment (Shih et al., 2012). A study done in Taiwan suggested that background music without lyrics had no significant effect on worker performance, but it did increase the overall satisfaction of the workers, suggesting that managers should consider implementing background music to increase positivity in the work environment (Shih et al., 2012). As a secondary stimulus, in an environment where adults or children need to stay focused on their independent work and not distract each other, background music may help students and employees stay focused and on-task without negatively affecting the quality of the work.

Another study described background music specifically as sound and not noise (Langan & Sachs, 2013). The purpose of background music is to serve as an external inactive distraction. This means that the music playing does not require active listening as that defeats the purpose of it playing, but instead it is supposed to quiet other external distractions. For example, no one actively pays attention to the music playing in grocery stores while they are shopping, but it keeps people from hearing the hundreds of other noises happening in their surroundings.

Mozart Effect

Music has been widely acknowledged for how it impacts, effects, and even benefits the human experience. The effects of music are so profound that it has been used as a ‘smart drug’ (nootropic) in the medicinal world. Rickard and McFerran suggest that music functions as a nootropic, which are alternatives that have been used for patients suffering from age-related cognitive decline and to increase overall performance potential.

One of the most prominent areas of research as it pertains to music and effect on cognition is within Mozart compositions. It has been theorized that the Mozart Effect occurs because of music effects on the brain. Listening to background music that has complex structures (such as Mozart) stimulates the right cerebral hemispheres of the brain (Aheadi et al., 2010). Researchers have been studying the Mozart Effect since the 1990s and study results have shown that playing Mozart compositions can improve spatial-temporal reasoning, even if temporarily.

The original study done by Rauscher found that college students exposed to Mozart's music as opposed to silence were significantly advantaged in abstract reasoning performance (Rauscher, 1993). Since the first study, background music effects on cognition, specifically Mozart, have been the source of many empirical studies. More recently studies have concluded that increased short-term memory, attention, and cognitive task performance improve directly after people are exposed to Mozart composition (Rickard & McFerran, 2011; Aheadi et al., 2010).

The term Mozart effect is simply a synopsis and short explanation of how music has become a nootropic. The way Mozart composed music affects the cognition of the brain in multiple facets, but the research has been overwhelmingly inconclusive because of the lack of replicated studies coming to the same conclusions. The replication and methodology of the research is one of its biggest issues, and something researchers are actively working to address. For example, a recent study showed that the Mozart effect may not be limited to only Mozart's music, but familiarity and preference in the background music (Rickard & McFerran, 2011).

Productivity

According to the Cambridge Dictionary (n.d.), being productive entails “providing a good result or a large amount of something.” This means that productivity is not just about the work, but also about the overall quality. Productivity implies that a meeting, project, or event went well. Translating productivity to a classroom setting means that when students are productive, they are on-task, not distracted, and meeting or exceeding the expectations for the required assignments.

The definition of productivity within the previous research studies includes paying attention to how background music affects the time it takes to complete assigned tasks, the overall quality of the work, and how much people seemed to be affected (if at all) by the stimulation of the background music (Bloor, 2009). Productivity specifically within classroom settings can also be a reflection of how motivated people feel to complete their work. A study by Dabiran et al. (2017) showed that when there was background music playing, it was easier for students to feel motivated to complete their work when they got tired and wanted to stop. It is important to keep in mind that when testing productivity in classroom settings, that it is not just about the work being completed, but the effort, quality, and distractions avoided in the process of students completing their work.

Measuring Key Concepts

Background Music

Background music has been measured in previous studies in various ways. Shih et al. (2012) had all of the participants complete an assignment without any background music to serve as a baseline, and then split participants into two groups. These two groups completed tasks again, one group listening to background music with lyrics, and the other listening to background

music without lyrics. The measurement of background music in this study was to determine how background music with and without lyrics affects the productivity of participants. Researchers accomplished this by examining the attention performance level results in each of the test results.

Background music was measured in the present study by keeping track of the volume in which the music was played and allowing the students an opportunity to provide feedback on how they felt affected (if at all), and examining the quality of their work after the written task . As previously mentioned, background music is supposed to go unnoticed for the most part or it becomes noise (Langan & Sachs, 2013). It was important that the music remain a secondary stimulus, noticeable only when students were off task and enhancing refocusing on the primary task.

Productivity

Productivity has been measured by examining the work submitted while background music is played versus when work is completed in silence (Hattaway, 2022). Students may not understand that they are being directly affected by their surroundings, especially at the elementary level, but their work may reflect how the background music affects their attention. The accuracy of the work is just as important as completion, and it is imperative to ensure that background music is not negatively affecting students' ability to complete the work.

In the present research study, productivity was examined by evaluating students' written work and surveying students about their experience with background music. Grading the completed tasks was based on a standardized rubric so that the rating of quality of the work was independent of researchers' opinions. The primary researcher monitored student attention during the completion of the work to check for off-task behaviors such as talking to other students, gazing off, making noises, etc.

Research Findings

Research into how background music affects productivity has varied in results. A study done in 2009 found that background music was beneficial during reading tasks but did not help behavior during math (Bloor, 2009). Another study found that people felt more motivated to complete the given tasks when background music was on. If the background music was a distraction, it was brief and eventually helped people get back on task (Dabiran et al., 2017).

Aheadi et al. (2010) discovered that the theory of the Mozart effect may not necessarily “work” on children who qualify as musicians. Listening to background music that has complex structures (such as Mozart) stimulates the right cerebral hemispheres of the brain, which has to do with spatial cognition. Aheadi et al. (2010) and Bloor (2009) state that studies need to be done on small-scale classrooms to show repetition of results.

Research has also shown that background music in classrooms for students with intellectual disabilities is tremendously helpful (Hattaway, 2022; Stainback et al., 1973). Studies show that when background music is playing, it relieved the students’ anxiety and allowed them to be more willing to engage with their peers and teachers. Teachers noticed that when the background music was playing, students seemed calmer and more willing to pay attention to what was happening in the classroom (Hattaway, 2022). Students with intellectual disabilities often have a heightened sense of anxiety in new environments with multiple changes taking place, the background music serves as a secondary stimulus that can help them calm down.

A study by Hallam & Godwin (2015) on 54 children who were assigned to three groups and tasked with writing a creative story, showed that students with no background music wrote the best stories, but the background music kept students in that group from distracting each other. Students who were put into groups had calming or exciting background music. The exciting

background music had an extremely negative effect on the students, while the calming music did not have a significant effect on how they performed. Researchers noticed that when one of the students would lose their focus, they would focus on the music instead of distracting their peers, and then go back to writing. Although background music might not be effective for creative writing, the study showed that having something besides each other to focus helped the students stay on task (Hallam & Godwin, 2015).

There has also been research into how self-selected music affects productivity. Homann et al. (2012) is another study showing that self-selected music decreases mind wandering and increases productivity; this study attempts to bridge the gap between level of difficulty and the relationship between silence, music, and task engagement. Results supported background music (self-selected) decreasing mind wandering and increasing on-task engagement no matter what the level of difficulty was (Homann et al., 2012). Kiss & Linnell's (2021) results showed that the background music decreased mind wandering, but not external distraction states. Additionally, as time goes by, background music during something seen as boring may lose its effect – supporting the conclusion that the less difficult the task is, the more effective background music is. These studies have opposing, or at least complex results but lead to the conclusion that background music is beneficial to classrooms in some capacity.

Research has also been done on how background music can affect how students learn in classrooms. Results show that background music positively affects comfort, confidence, and retention in the classroom (Langan & Sachs, 2013). Background music not only affects how productive students are, but also how comfortable they are in the classroom. Research shows that background music makes the students more likely to engage in what is occurring in the

classroom, and it should be implemented to create a healthy environment for all students (White, 2007).

An important aspect of implementing background music into classrooms to increase productivity is the volume of the background music. It is important that the music is a secondary stimulus, as not to require direct attention from the students but just enough to encourage students to focus on the tasks at hand (de la Mora Velasco & Hirumi, 2020). Namwamba (2013) found that engineering students benefited from increased volume of classical music while testing. As the volume of classical music increased, so did the test scores. It can be inferred that test anxiety decreased with the background music.

Existing Gaps and Limitations

A review of literature based on background music and learning specified the four most prominent limitations in this body of research as: (1) specification of how background music is manipulated during the study (2) number of participants (3) testing only in educational settings and (4) effects of background music on conceptual learning (de la Mora Velasco & Hirumi, 2020). In previous studies, it was not clear how the independent variable was manipulated so that this study could be replicated. This can be addressed in the future by providing the exact type of music and the volume in which it was played at during the study. For example, if using Mozart's (for the purpose of the Mozart Effect) music, it is important to specify which composition of Mozart's is used and even providing access to the copy for replication purposes.

Testing outside of an educational system has been done – an example of that is the study done by Shih, Huang, & Chiang (2012), Researchers tested employees using the Chu Attention Test to simulate how background music affects employees in the work setting. Homann et al. (2012) conducted research on self-selected background music. Although this

research was done in education settings, it provides students with the opportunity to listen to music if they want to, without influencing students who might be distracted by background music.

Langan & Sachs (2013) examined how background music affects students' learning, retention, and engagement in a classroom setting. During the study, students in a literacy class attended a lecture while background music played; sometimes the students even got to choose what type of background music was played. Results showed that background music positively affected comfort, confidence, and retention in the classroom. These students were lectured on concepts and from their own feedback felt more relaxed and engaged with the content being shared. Another study examined how background music affected students during creative writing (Hallam & Godwin, 2015), and another on reading and math (Bloor, 2009).

Overall, the literature reviewed suggests the possibility that background music may have positive effects on student engagement and learning, but the relationship between music and productivity may be complex. Future research suggestions by many of the authors studying the effect of background music on student learning (e.g., de la Mora Velasco & Hirumi, 2020), served as the foundation for the present study.

Chapter Three: Methodology

Introduction

This study was designed to assess if placing background music in classrooms will increase students' productivity by answering the research question, "What impact does background music have on students' measures of productivity?" The alternative hypothesis is that background music helps to increase productivity in a classroom setting. The null hypothesis is that background music has no positive effects on students in a classroom setting. The students were evaluated on how background music affected productivity specifically around creative writing.

Participants

Participants for the study were school aged children ranging from the ages of twelve to fourteen. A partnership was formed with a local Central Florida K-8 school to conduct the research. Nine eighth grade students were included in the sample population, split into two different groups, one experiencing no background music while engaged in creative writing, and another group exposed to quiet instrumental (no lyrics) background music while engaged in creative writing. The point of choosing children this age is because of the prior knowledge the average eighth grader has in creative writing. There is general knowledge on forming sentences, writing essays, etc. Students were able to successfully complete the task without it requiring domain specific knowledge they had not already been exposed to.

Setting

To accurately understand how background music affects productivity in classroom settings, the study took place in a classroom on the school campus so that the students were minimally affected by outside factors. This study was essentially a field study in that it simulated

a real-life experience to produce accurate results. The study took place in a classroom at the students' school and under supervision of their familiar school staff.

Instruments

To measure how the background music affected productivity, a rubric for writing was used to grade the students' short stories. The rubric is available in Appendix A. Students were instructed to write a creative story with a beginning, middle, and end. Students had fifteen minutes to complete their short stories. After the stories were completed, they were graded by researchers using a standardized rubric previously established by another school district (see Appendix A). The rubric addresses five key traits: ideas, organization, voice, word choice and structure fluency, and conventions (*Short story rubric*). This rubric was used by researchers to assess the overall quality of the writing, along with qualitative descriptions from student surveys to evaluate their experience with the background music.

Procedures

Students were recruited from a local middle school in Central Florida. After receiving permission from the principal, a letter to parents inviting the students to participate was sent home. The letter described the purpose of the study, procedural steps, ethical considerations, and how the data from the study would be used. Students completed assent forms, and parents completed consent forms after reading all of the information about the study. Parents were informed that the study was not a school requirement and that they could withdraw consent and choose not to have their child participate at any time.

Students were randomly assigned to either the background music group or no background music group. The groups completed the task in the same classroom but at different times. The students were escorted to an available classroom by the school counselor. The students in the no

background music group were escorted to the classroom and completed the research task first; after their task completion, the second group was brought to the same classroom for the background music condition. For both groups, upon arrival, students were informed that the researchers were interested in studying factors that influence student learning. Students were given a prompt telling them to write a creative story with the only guidelines being that the story has a beginning, middle, and end. They had fifteen minutes to complete the story. Students were notified when five minutes remained.

The background music group had classical piano music played over a computer speaker at a low volume during their writing task; the other group had no background music. For each group, after the fifteen minutes were complete, the stories were collected. The students in the background music condition completed a survey asking them about their experience. Students who had the background music were asked if they noticed the music playing, if it distracted them, if it helped them think about their story, and if they appreciated the music playing in the background. Is the music something they even noticed? Did they feel it helped them focus? Did it distract them?

Data Processing and Analysis

The study was designed to analyze the cause-and-effect relationship between background music and productivity in classroom settings. Researchers used a rubric to score each participant's story in several areas: conventions, word choice, voice, organization, and ideas. The raters were blind to the condition; raters were not informed whether the essay was written by a student in the background music group or the no background music group. At least three raters who were either faculty or psychology undergraduate students with research experience rated each participant's essay to provide an aggregate score. The quantitative ratings of students work

with background music and without background music were analyzed using an independent t-test run through SPSS (Statistical Package for the Social Sciences).

Chapter 4: Results

Of the initial eleven students with parental permission to participate, nine students were present and completed the creative writing and survey. Five students were randomly assigned to the background music condition, and four students were randomly assigned to the no background music condition. Student writing was rated on a rubric for an aggregate writing score.

Results were analyzed with SPSS. Student individual mean ratings of the scores were analyzed in SPSS through independent t-test. Results showed that the group of no background music students' mean score was 10.7, with a standard deviation of .93. The background music students' mean score was 10.12, with a standard deviation of .63. The t-test for the independent means was not statistically significant, indicating that there appears to be no difference in student performance based on whether or not music was playing in the background, $t(8) = 1.12$, $p > .05$.

Based on the survey responses, most of the students described the music as making them feel "calm, concentrated, focused, and relaxed." Some students didn't feel that the music affected their academic performance but appreciated the addition to the classroom environment. None of the students felt negatively affected by the background music. Results support other research stating that background music can positively affect satisfaction without necessarily affecting productivity (Shih et al., 2012).

Chapter 5: Discussion

Conclusions

Results from the study showed that the background music group and no music students' mean scores were very similar across both groups. The t-test for the independent means was not statistically significant, indicating that in this study there appears to be no difference in student performance based on whether or not music was playing in the background. Although there was no significant difference in student performance in the control and experimental group, descriptive feedback from student surveys showed that most students in the music condition appreciated the classical piano in the background.

Educational experiences are complex, including the individual differences of students and teachers, and the social and environmental dynamics of the classroom. Background music is common in many other areas (e.g., retail stores; social events), and its influence may be minor compared to other influences on educational performance.

In the present study, the sound of the background music did not appear to distract students or negatively influence their ability to perform the creative writing task. It may be that background music has no direct influence on student performance but that it may create a positive environment for students and teachers. Based on the current results, teachers and students who prefer to work to background music have some support for the conclusion that background music will, at the least, not interfere with performance and creativity.

Limitations and Future Directions

The number of participants in a single study affects the statistical significance that can be achieved. Testing in a classroom setting allows for a limited number of participants. This limitation can be addressed by testing in school districts, instead of schools. For example, the

current study took place in a single school, but if a research study could be placed into a district, the sample size would be larger simply because more students, parents, teachers, etc. would be available. Another alternative way to examine data is by completing research only through surveys instead of physical testing. Sending out surveys (optional) for parents to complete with their students on how they feel background influences their study/learning time would be much easier and provide a different perspective than data gathered by going into school systems with minors. In addition, qualitative interviews and case studies could provide a depth of information about student experience with background music. Future studies may focus on the non-academic aspects of background music in the classroom, such as reducing student and teacher stress and increasing positive associations with the classroom and independent work time for students.

References

- Aheadi, A., Dixon, P., & Glover, S. (2010). A limiting feature of the Mozart effect: Listening enhances mental rotation abilities in non-musicians but not musicians. *Psychology of Music*, 38(1), 107–117. <https://doi.org/10.1177/0305735609336057>
- Bloor, A. J. (2009). The rhythm's gonna get ya' – background music in primary classrooms and its effect on behaviour and attainment. *Emotional and Behavioural Difficulties*, 14(4), 261–274. <https://doi.org/10.1080/13632750903303070>
- Črnčec, R., Wilson, S. J., & Prior, M. (2006). The cognitive and academic benefits of music to children: Facts and fiction. *Educational Psychology*, 26(4), 579–594. <https://doi.org/10.1080/01443410500342542>
- Dabiran, Y., & Li, Y. (2017). *The Effect of Background Music on Cognitive Task Performance* (thesis). *ProQuest Dissertations and Theses*. Retrieved February 10, 2024,.
- de la Mora Velasco, E., & Hirumi, A. (2020). The effects of background music on learning: a systematic r review of literature to guide future research and practice. *Educational Technology Research & Development*, 68(6), 2817–2837. <https://doi.org/10.1007/s11423-020-09783-4>
- Hattaway, R. B. (2022). Music as a form of therapy in the K-4 special education classroom: A phenomenological study [ProQuest Information & Learning]. In *Dissertation Abstracts International Section A: Humanities and Social Sciences* (Vol. 83, Issue 11–A).
- Hallam, S., & Godwin, C. (2015). Actual and perceived effects of background music on creative writing in the primary classroom. *Psychology of Education Review*, 39(2), 15–21. <https://doi.org/10.53841/bpsper.2015.39.2.15>

Homann, L. A., Drody, A. C., & Smilek, D. (2023). The effects of self-selected background music and task difficulty on task engagement and performance in a visual vigilance task. *Psychological Research*, 87(8), 2460–2476.

<https://doi.org/10.1007/s00426-023-01836-6>

Kiss, L., & Linnell, K. J. (2021). The effect of preferred background music on task-focus in sustained attention. *Psychological Research*, 85(6), 2313–2325.

<https://doi.org/10.1007/s00426-020-01400-6>

Langan, K., & Sachs, D. (2013). Opening Pandora’s Stream: Piping Music into the Information Literacy Classroom. *Public Services Quarterly*, 9(2), 89–109.

<https://doi.org/10.1080/15228959.2013.785876>

Namwamba, J.-B. O. (2013). The effect of classical instrumental background music volume on performance in mathematics tests, self efficacy, and test anxiety of college students [ProQuest Information & Learning]. In *Dissertation Abstracts International Section A: Humanities and Social Sciences* (Vol. 73, Issue 12–A(E)).

Productivity definition | Cambridge english dictionary. (n.d.).

<https://dictionary.cambridge.org/us/dictionary/english/productivity>

Rauscher, F. H. (1993). Music and spatial task performance. *Nature*, 365, 611.

Rickard, N. S., & McFerran, K. (2011). *Lifelong engagement with music : Benefits for mental health and well-being*. Nova Science Publishers, Incorporated.

Shih, Y.-N., Huang, R.-H., & Chiang, H.-Y. (2012). Background music: Effects on attention performance. *Work: Journal of Prevention, Assessment & Rehabilitation*, 42(4), 573–578.

Short Story Rubric.pdf. (n.d). Madison-Schools. Retrieved April 9, 2024, from

[https://www.madison-schools.com/cms/lib4/MS01001041/Centricity/Domain/2509/SHORT](https://www.madison-schools.com/cms/lib4/MS01001041/Centricity/Domain/2509/SHORT%20STORY%20RUBRIC.pdf)

[RT%20STORY%20RUBRIC.pdf](https://www.madison-schools.com/cms/lib4/MS01001041/Centricity/Domain/2509/SHORT%20STORY%20RUBRIC.pdf)

Stainback, S. B., Stainback, W. C., & Hallahan, D. P. (1973). Effect of Background Music on Learning. *Exceptional Children*, 40(2), 109–110.

<https://doi.org/10.1177/001440297304000205>

White, K. N. (2007). *The effects of background music in the classroom on the productivity, motivation, and behavior of fourth grade students* (Order No. 1498808). ProQuest

Dissertations & Theses Global. (880578996)

<https://seu.idm.oclc.org/login?url=https://www.proquest.com/dissertations-theses/effects-background-music-classroom-on/docview/880578996/se-2>

Appendix A

SHORT STORY RUBRIC

Key Traits	4 20 pts.	3 15 pts.	2 10 pts.	1 5 pts.
IDEAS	<ul style="list-style-type: none"> The opening lines vividly present the story's main conflict and characters. Significant, descriptive details reveal the setting and characters. The writer uses strong dialogue to show the characters' personalities. 	<ul style="list-style-type: none"> The opening lines present the story's main conflict and characters. Most details are relevant in revealing the setting and characters. The writer often uses dialogue to show the characters' personalities. 	<ul style="list-style-type: none"> The opening lines vaguely present the story's main conflict or characters. More details and examples are needed. The writer occasionally uses dialogue. 	<ul style="list-style-type: none"> The opening lines do not present the story's main conflict or characters. Details and examples are irrelevant or are missing. The writer does not use dialogue.
ORGANIZATION	<ul style="list-style-type: none"> The writer sets the scene by introducing the characters, setting, or action in a memorable way. The ending resolves the conflict satisfactorily. The sequence of events is clear and engaging. The story has a clear beginning, middle, and ending. 	<ul style="list-style-type: none"> The writer vaguely presents the characters, setting, or action. The ending resolves the conflict. The sequence of events is mostly clear. The story has a beginning, middle, and end, but the action is not always easy to follow. 	<ul style="list-style-type: none"> The writer hints at the characters, setting, or action. The ending does not bring the conflict to a satisfying conclusion. The sequence of events is sometimes confusing. The story has a beginning, middle, and end, but the action is hard to follow. 	<ul style="list-style-type: none"> The writer does not set up what the story is about. The story begins and ends in a confusing way.
VOICE	<ul style="list-style-type: none"> The tone and voice are strongly individual and appropriate for the story. The point of view is highly consistent. 	<ul style="list-style-type: none"> The tone and voice are individual and acceptable. The point of view is consistent. 	<ul style="list-style-type: none"> The tone and voice are not clearly individual and not always appropriate. The point of view is occasionally inconsistent. 	<ul style="list-style-type: none"> The voice lacks individuality. The point of view is inconsistent and confusing.
WORD CHOICE & SENTENCE FLUENCY	<ul style="list-style-type: none"> Thoughtful use of sensory language helps create memorable pictures of the setting, characters, and conflict. Sentences have a pleasing variety of structures. Use of fragments and run-on sentences in dialogue is deliberate and thoughtful. 	<ul style="list-style-type: none"> Sensory language is adequate to describe the setting, characters, and conflict. Sentences mostly have a variety of structures. Use of fragments and run-on sentences in dialogue is thoughtful. 	<ul style="list-style-type: none"> A little more sensory language is needed. Some sentences have a variety of structures. Use of fragments and run-on sentences in dialogue is not always thoughtful. 	<ul style="list-style-type: none"> Lack of sensory language limits the picture of the setting, characters, and conflict. Repetitive sentence structures and lack of dialogue make the writing difficult to follow.
CONVENTIONS	<ul style="list-style-type: none"> Spelling, capitalization, and punctuation are correct. Grammar and usage are correct. Paragraphing tends to be correct. 	<ul style="list-style-type: none"> Spelling, capitalization, and punctuation are sometimes incorrect. Grammar and usage do not distort meaning but are not always correct. Paragraphing is attempted but is not always sound. 	<ul style="list-style-type: none"> Spelling, capitalization, and punctuation are sometimes incorrect. Grammar and usage errors distract from meaning. Paragraphing is irregular or too frequent. 	<ul style="list-style-type: none"> Common words are misspelled and almost all punctuation is missing or incorrect. Grammar and usage mistakes are frequent and distort meaning. Paragraphing is missing.