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The Power of Music and Mental Breaks: Can It Improve Academic Achievement in Elementary Schools?

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Abstract

A q~~Q~~ualitative research proposal was ~~ere~~ completed to address the following question, ~~with topic inquiry,~~ Can adding music and mental breaks into a school day increase academic performance in elementary schools? Implementation of music instruction and/or incorporation during lessons and mental breaks throughout the school day were examined. Higher performance in academic achievement was present in elementary aged children when music was present and implemented with an increase in Math and Reading scores than in schools without the service offered. Mental breaks “wake up” activities demonstrated a higher academic performance in academic achievement and desire to attend school compared to schools without such offered programs. Together, these findings suggest that music and mental breaks are effective in increasing academic achievement and desire of attendance when implemented in elementary schools.

Key words: mental breaks

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Activities such as music, physical education and fine arts~~Music~~, ~~P.E. and the Fine Arts~~ were regular requirements in elementary schools. Jacobson's (1997) study notes the disparity in school findings throughout the state is the real tragedy: Students aren't achieving because schools in some of the poorer areas of the state don't have adequate resources. The first to go are fine arts programs such as music and teachers that can provide assistance to watch children during mental (cognitive breaks). In a PTA meeting it was noted, "It's a choice between fixing a roof and buying textbooks," says Jeanne Stefanac, the p~~P~~resident of the state's 126,000 member PTA. This is not only a local issue but globally as well. Similarly, Yan (2012) findings discussed that many children in rural areas (China) do not have access to music, fine art, dance, theater, film and other creative studies. The challenges contributing to this problem are elaborated, which includes the lack of professional art teachers, shortage of available funds, and the examination-oriented education.

Education disparities are caused by various factors. In ~~Within~~ this review, the~~is~~ writer will ~~discuss the~~ focus on the limited funding and trained and experienced professionals available in public schools ~~lack of funding and lack of professionals trained and experienced~~ to provide the service and the focus of testing. The f~~F~~unding and teacher ratios are often based on student enrollment. The focus is usually on filling positions versus ensuring that fine arts programs are implemented. According to Yan (2012) based on the standard, the number of teachers is

determined by the number of students. Where there are more students, particularly in urban areas, there are more teachers with limited funds being spent most on necessary teaching materials.

Furthermore, p~~P~~rograms such as music often get cut during the discussion of budgets. Major (2013) argues that ~~d~~ music educators today must fight against shrinking budgets in a tough economy. Since the dot-com bubble of 1995 to 2000, the current real estate slump, and related financial problems, US Americans have seen the economy slow significantly. These decisions might help the budget, ~~-~~but they do not help overall academic success of children. How does one determine which program to release? How effective ~~affective~~ could keeping programs such as music and adding mental breaks (cognitive breaks) actually improve academic achievement have on schools receiving funds? Most schools cut budgets in order to supply text-books for the core subject areas. Goral (2018) reported when it comes to balancing school budgets, the arts and particularly music often suffer most from spending cuts. It's part of a cycle that began in the 1970s when, in the hope of averting a fiscal crisis, schools laid off thousands of arts teachers.

As a result of the ~~said~~ problems in the economy mentioned above, ~~in the economy~~ many public schools reported diminishing funds as the economy declines, school district officials must provide high-quality education with less funding even as the cost of education rises. (Major, 2013, p21).

Additionally, f~~F~~actors such as the No Child Left Behind Act that states school districts must measure and prove that students make "adequate yearly progress," this shifted the educational priorities toward subjects assessed on standardized achievement tests. These subjects included math, science, English, and history but did not include music and the other arts. (Major, 2013, p 21). According to research this had a negative effect on music education programs.

Not only is funding affected, but it also negatively impacts ~~but~~ the ~~so is~~ quality of the education and experience of children in ~~in the~~ schools~~school negatively impacted~~. In their research, Erola & Erola (2013) ~~in their research~~ concluded that having an extended music education enhances the QSL, particularly in areas related to general satisfaction about the school and a sense of achievement and opportunity for students. They also noted the overall results imply that extended music education has a positive effect on the social aspects of schooling. A parallel in academic achievement and implementing a music curriculum. Ponter (1999) observed the parallels between academic achievement and music education, Cognitive benefits of the developmental study of music; information on studies citing that music makes a person smarter. The loss of funding took programs such as music and extra time for recess/ mental breaks out of the school day.

Mental (Cognitive) "W~~w~~ake U~~u~~p" B~~b~~reaks

Townes (2008) noted that US Americans intuitively understand that a well-managed recess can have a positive impact on many important parts of a child's life by making physical activity fun and helping children l~~kids l~~earn better. However, a vast majority of elementary schools offered no recess or playtime for students. This is attributed to the county's intense efforts to meet strict testing goals under the No Child Left Behind mandate. (p31). With the emphasis on solely academics, ~~-~~physical and mental health activities often loose its benefits; Watson (2019) points out physical activity during childhood is associated with multiple short- and long-term health benefits. However, population-based studies indicate less than 50% of primary (elementary) school-aged children attain the recommended 60 minutes of moderate to vigorous intensity physical activity per day required to accrue health benefits. Watson later noted

the physical activity interventions targeting the school environment can be difficult to implement, because the priority is on completing the ~~often due to competing time~~ demands associated with academic accountability. Active breaks (mental breaks) are short breaks of physical activity performed in the classroom as a break from learning task. (p.1).

Scholars Boyd and Anderson (2013) found that implementing breaks promoted an increase in social behavior amongst peers. Koener (2018) writes in her observations, “the days of recess are dwindling, yet the reality is that recess may not be the problem but the solution.” In her column on *Recess and Brain Breaks* Koener emphasizes that ~~,~~ educating children by helping them to develop social competencies, emotional well-being and physical abilities while teaching them how to communicate, collaborate and solve problems is the best gift we can give to our children. (p. 86). Why are so many schools excluding recess that gives brain breaks and fine arts such as music if it ~~indeed~~ improves academic achievement? Henley, McBride, Milligan and Nichols (2007) stated this is robbing elementary children of their childhood. The No Child Left Behind Legislation has altered the landscape of elementary schools across the nation. Across the nation, traditional programs, and programs such as recess, music, and art, along with programs for gifted educationally disabled, have been eliminated or altered beyond recognition.

In Florida, a coalition of parents known as the “recess moms” has been fighting to pass legislation guaranteeing the state’s elementary school students at least 20 minutes of daily free play. In a survey of school district administrators, roughly a third said their districts had reduced outdoor play in the early 2000s. Likely culprits include concerns about bullying and the No Child Left Behind Act, whose time-consuming requirements resulted in cuts to play. (Wong, 2016, p.22). A decrease in attention was noted when children had to wait longer before having a brain break. This prompted research and a live experiment for the recess moms.

The implementation of the No Child Left Behind removed programming that focused on the whole child and highlighted a focus on standardized tests. Garcia and Thornton (2015), president of the National Education Association and p~~P~~resident of the National Parent Teacher Association write, ~~s~~ No child Left Behind has failed. The problem is, a single test score is like a blinking “check engine” light on the dashboard. It can tell us something’s wrong but not how to fix it. What we need instead is a whole dashboard of indicators that monitor better measures of success for the whole child- a critical, creative mind, a healthy body and an ethical character. This left very little to no attention on physical health with the parallel of the rise in obesity in our children year tripling since 1970. CDC reported 2015-2016 show nearly 1 in 5 school age children and young people in the United States has obesity. Implementing brain breaks for recess can increase the physical activity related to obesity. Other direct correlators are self-confidence with academic performance.

As schools focused on testing, other problems surfaced such as obesity, depression, suicide and poor interpersonal skills ~~within our~~ school age children. Klein (2019) suggest schools and district leaders to contribute towards professional development such as making recess ~~as~~ a priority for students. She shifts ~~-~~needs to be on recess as a way to build social-emotional skills to recess as a means to boost academic outcomes; and starting the high school day later to avoid weight gain, depression, and lower academic performance among students. Klein (2019) in his over report stated, “Want better academic performance from students? Given em’ fricken recess.”

> “Certain policy remedies are, in order to improve test scores, we need to get rid of recess. Recess is soft. Recess doesn’t lead to high performance”, Pink said. That is just empirically wrong. It’s flatly wrong. Everything we know about breaks suggests the opposite. “Recess needs to be a priority in the schedule, just like any other subject. And the argument needs to shift from recess as a way to build social -emotional skills to recess as a means to boost academic

> outcomes. We should fight for recess not as a nicety, but as necessity," Pink said. "If you want kids to perform better, give frickin' recess. This is not about being nicey-nice. Recess makes them better at classroom learning. (Klein, 2019, p. 28-31).

Past Methods of Research

A qQualitative path analysis studies conducted by scholars such as Centeio, Somers, Moore, Kulik, Martin, and McCaughtry (2018) findings suggested to increase physical activity throughout the school day, understanding the relationship that comprehensive programming has on academic achievement of children is needed. This study demonstrated a clear link between academic achievement and healthy school transformations and sets the stage for more research in this area, as well as implications for pedagogy around health and wellness in the school setting. The scholars saw a significant improvement in the predictors of student's reading comprehension rates as well as significant improvement in math. Not only does research show brain breaks of recess and music improve academics but Shan (2013) states, "better recess equals a better school day."

The Florida legislation after research and experiment pushed for a 20- minute recess. Here are their findings and process: The benefits of recess might seem obvious time to run around help kids stay fit. But a large body of research suggest that it also boosts cognition. Many studies have found that regular exercise improves mental function and academic performance. And an analysis of studies that focused specifically on recess found positive associations between physical activity and the ability to concentrate in class. In one series of experiments, researchers manipulated recess start times. Some days children were let out at 10 am and other days 1030am. The kids attentivenes decreased when they had to wait longer for recess and

rebounded after they played. It was also noted they had an easier time staying on task. (Wong, 2016, p22).

Goral (2018) reported cuts continue even though there is strong evidence that the arts contribute to a complete education. For example, data from The College Board shows that in 2015, students who took four years of arts and music classes while in high school scored an average of 92 points higher on their SATs than did students who took only one-half year or less. Russ (1998) saw a correlation in reading scores, measured by the Texas Assessment of Academic Skills (TAAS), are up 12.3% in the last five years, writing scores up 14%; and math scores, 61%. And in 1997, all our sixth graders demonstrated reading mastery. Beyond the TAAS scores, anecdotal and empirical evidence shows how comprehensive arts-education is enhancing student's ability to understanding concepts and express themselves articulately.

Russ noted in his observation the connection, students learn to look at art in an analytical rather than emotional way and are able to transfer this skill to other disciplines. They quickly sense the benefits of being able to mentally unwrap and interpret a work of art. This spurs them to apply logical thinking elsewhere-to a story or book, a science experiment, a long-division problem. (Russ, 1998, p58). Scholars research has shown favor to implementing and maintaining programs such as art, music and recess do indeed raise math and reading scores.

Southgate, and Roscigno (2009) study concluded suggestions that music deserves a place with the core subjects of mathematics, science, history and language arts; Information suggesting that if music is given a chance it can make a difference in the academic achievement of students. They explain the meta-analysis of experimental studies on the relationship between spatial performance and music listening. Such claimed associations between math, music, and cognition have persisted across time and cultures. Possible associations with children's development made

their way into the system of U.S public education quite early on the Horace Mann, a founding thinker of public education, pushed for music inclusion in the core curriculum. The general consensus, which persist today, is that music is an important dimension of academic development. Their research consisted of Gallup Polls, meta-analysis, logistic and OLS regression techniques to assess patterns of music involvement.

Studies have shown a strong linkage in academic achievement when music is incorporated as well as in social skills for elementary students. It is well-known benefit when kept inside schools. Eerola and Eerola (2013) found social benefits for music education causing short-term increases in IQ testing has been obtained from 6-year old children, and the effect seems to last for 11 year olds and even 16 year to 25 year old adolescents. Another investigated area of transfer is music and language. Practice in music has been found to speed up literacy skills and the studying of foreign languages. Their study was done doing a quasi-experimental design. The results suggest that studying music does provide measurable social benefits. In the comprehensive school, pupils in the classes with extended music education were generally more satisfied with school life than pupils in the classes with a normal music education curriculum. (Eerola and T. Eerola, 2013, p.98).

Power of Music and Mental Breaks

Research has shown that music and mental breaks matter Psychologically, Socially and Academically. Southgate and Roscigno (2009) show that studies of the structured neuronal model of the cortex encouraged social scientists to discover that the certain music positively affects the spatial-temporal scores of listeners during exams-something offered during the “Mozart Effect.” They saw a correlation of those that listened to Mozart prior to taking a paper pencil exam did much better than their counterparts who did not listen to Mozart before taking an

exam. How and Why music matter is due to music stimulating cognition. Stimulation of the brain is necessary for maximizing the students' potential in an 8-10 hour school day. Broader analyses of extra-curricular involvement, such as that undertaken by (Broh (2002)) have been added to our understanding of music's potential correlation to achievement beyond possible direct cognitive effects, supporting the theory of cultural capital. Using the NAELS:88 data. Broh studied an array of within school extracurricular activities (sports, cheerleading, drama, student council, yearbook, vocational clubs, and music) and found several associations between participation and achievement (grades and math and language scores). (p.7).

Adding programs such as fine arts in music can allow creativity of one's brain. This can help in daily problem solving skills within the educational system. Zhou Yuanqing, stated, "Art education cultivates a child's mind, inspires their creativity, and leads them to pursue their life's goals, without the ability to appreciate art, a person is incomplete. This global issue was resolved by hiring and training teachers to specialize in fine art programs such as music and art specials. The NAMM foundation, the sponsoring organization, has provided more than $1,000,000 to fund research on the impact of music education on student achievement and success in school so that policies can change and each child can experience the benefits of music in schools. (Hodges and Luehrsen, 2010, p71). Within their phased research they allow middle school and high school students to submit essays discussing benefits in several categories: life, emotional and music-specific benefits. The No Child Left Behind in 2001 that eliminates these programs as written in the statements by congress are researched and discussed as effected. Hodges and Luehrsen (2010) concluded that quality research about the role and impact of music education conducted by experienced researchers who publish in rigorous, peer-reviewed, scientific research

journal plays a vital role in moving a public policy agenda forward to achieve expanded access to music education for all children.

Benefits of Brain Breaks

According to findings, US Americans believe that schools play a key role in advancing the physical and mental health of kid, with a particular emphasis on recess. Having an opportunity to leave the classroom learning time can positively help academics as well as outside the classroom and later in life. James Mark, senior vice president and director of the Robert Wood Foundation, said children spend most of their lives at school and on the playground. "-This offers one of our best choices to help children develop into healthy, active adults who know how to work together and resolve conflicts." (Townes, 2008, p.31). Having interpersonal skills in and outside can be beneficial for the student with getting one's needs met. Ramstetter, Murray, and Garner (2010) conducted a comprehensive review that lead to findings of benefits supporting recess (brain breaks) as beneficial for children's cognitive, social, emotional, and physical functioning; serves a critical role in school as a necessary break from the rigors of academic challenges.

Thatcher (2010) argues any child, parent, or teacher can explain why keeping young kids at their desk from 8am to lunch time is a poor idea. Even the stegosaurus, reputed to be "so dumb as to only be dimly aware that it was alive," must have understood the importance of physical exercise. The latest research on learning and cognition, summarized in a recent New York Times Magazine article online "Well; Physical Ed. The fittest Brains" gives increasingly persuasive evidence that exercise and fitness have positive effects on the immature human brain. There is a correlation of children who have active breaks are more engaged inside the classroom for learning time. Thatcher, head of the school cries out to, " Let's just consider, for a moment, what

school is going to feel like for all the little boys and girls imprisoned in my town's elementary schools, what its going to feel like for all those teachers who are devoting their lives to the unbelievably arduous challenges of running a classroom. In other words, let's give them all a break. Their lives and ultimately the increasingly decaying fabric of our national culture-will be the better for it. (p. 27).

What theory would you use to ground your work? A literature review needs to be framed in a certain theory. Also, what would your work add to the body of knowledge on this subject that doesn't currently exist?

Methodological Strengths and weakness

A q~~Q~~ualitative research study was conducted in most peer review articles examined of this writer. In further study this writer would conduct at q~~Q~~ualitative ethnographic research. This writer would choose an ethnographic research study due to wanting to gather the most accurate information as it relates to the academic, social and psychological achievements of the children. Several studies have had limitation on the onset because of the person(s) prior academic performance as it relates to improvement. This writer would like to experience the culture of the schools by ~~examining several by~~ spending ~~days and~~ months inside schools and classrooms while spending time with students and teachers to gather information for research for most accuracy.

Throughout the research proposal several strengths and weakness were discovered. The weakness noted were family values and socio-economic backgrounds can potentially contribute to some of the observed differences, gender differences. Meaning when examining academic achievement there was not a note of gender separation only grade and states. Other weakness can

be examining the equity. It is unknown where the child starts with their academic knowledge. With the No Child Left Behind policy, the focus to increase scores highlights improvement but from what baseline? This can be a weakness in the research when comparing to the argument to remove fine arts. Knowing baseline can be beneficial with knowing how effective implementing the fine arts and brain breaks is for elementary aged children.

Other weakness in research is the literature. Recess is used to also mean active breaks as well as a mental breaks for the purpose of cognitive functioning and play time. A term very loosely used and not defined throughout research. Other limitations are not consistently examining long term impact on other areas such as nutrition, interpersonal skills and college entrance when recess reduced and/or removed showed impact of weight and benefit of socially. Further studies should consider looking at social, academic, psychological and physical impact of implementing and removing fine arts programs such as music and having necessary brain breaks.

Although, there were a number of limitations, there were several strengths in the research. Most researchers were consistent with their findings. This was local as well as globally. Research in Georgia stated the same issues and benefits when music and recess was removed as did China. There was also similarities' in socio economics; the same issues with schools suffering with funding were the first to be removed from fine arts programs such as music. All results showed the same that with music inside classrooms it can improve reading and math scores. Having brain breaks can improve social skills for child and young adult life as well as academic achievement.

Conclusion

~~The results suggested that~~ The review of relevant research shows that implementing music and brain breaks of recess does provide academic achievement. In elementary schools, research showed an increase in reading and math scores when music was a part of the offered programming. Furthermore, ~~The results showed that~~ children were more satisfied with school programs when they are able to participate in music than in schools without the offered music education. There were consistent positive correlations in benefits of achievement in reading and math in local schools as well as international research when music was offered and noted the students felt confident in their school-work. The positive effects of music in primary schools could not be explained by the selection of specialist classes, or by an unbalanced gender distribution. (Eerola and T. Eerola, p. 99).

It is concluded through research that music participation does generally increase achievement levels, although gains are not distributed equally among all students. Music does allow for social benefits which can build confidence in and outside the classroom for problem solving. Music involvement is a form of cultural capital that seems to provide cognitive and social tools that help students successfully navigate the educational terrain. (Southgate, and Roscigno, 2009, p. 19). Previous findings have shown a strong linkage between cognitive and academic outcomes when music is present leading to students fully engagement with classes.

The results of mental breaks of recess showed that recess was indeed the solution and not the problem. The No Child Left Behind policy ~~Law~~ took reduced play breaks out of the day making longer days for children. The hopes wer ~~was~~ to improve standardized testing. Koener (2018) reports brain breaks are used to refocus students, without a loss of instructional time. In fact, we have increased instructional time. Teachers who implemented brain breaks saw they

were able to maximize the students in learning. Recess allows students to form social relationships and finding one's place in the world. ("Axtman (2004)") The loss of recess and psychology, results in a more sedentary, stressed-out youngster who may encounter significant difficulties learning to socialize. Like the loss of P.E. , art, and music-it's also a blow to the whole child" approach to education- which says that playing is as important to learning as the multiplication tables are to math. (Henley, McBride, Milligan, Nicolas, 2007, p.58).

Music and mental ~~Mental~~ breaks both showed a strong effect on academic achievement for at risk students, students in urban populations as well as globally researched. Implementing this 30 minute program can aid in the increase in social skills as well as improvement in m~~M~~ath and r~~R~~eading levels. Music is said to serve as a way for group exercises and forms of self expression. "Musical selections provided opportunities for social, physical, emotional and cultural development." (~~-~~Hadley,p574).

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