

Delta Journal of Education

Volume 1 Number 1 Spring 2011

Special Edition on Health and Wellness

Published by Delta State University



A Case for Recess in Elementary Schools

Dr. Patricia Murphree. Professor of Graduate Education
Lincoln Memorial University
Retired Director of Elementary education of Lee Country, Virginia Public Schools

And

Dr. Dan Wilder Associate Professor of Graduate Education
Lincoln Memorial University
Retired Superintendent of Lee Country, Virginia Public Schools

Abstract

Academic performance, emotional health, and childhood obesity could be addressed with increased recess activity during the school day from academic instruction. An issue has risen as a result of increased demands for accountability in public education: whether recess is an essential component of education that should be retained or a waste of time that could be better spent on academic instruction and should be eliminated from the school day. Research suggests that eliminating recess from the regular school day has an adverse effect on student behavior, attitude, attention, and retention of knowledge. In an attempt to raise test scores by spending more time on academics, schools may actually be hampering student achievement and ultimately producing lower test scores.

Keywords: academic performance; childhood obesity; recess

A CASE FOR RECESS IN ELEMENTARY SCHOOLS

Could consistent activity in school play time at a recess break help solve the problems of academic performance, emotional health, and childhood obesity? These are issues that have risen as a result of increased demands for accountability in public education: whether recess is an essential component of education that should be retained or a waste of time that could be better spent on academic instruction and should be eliminated from the school day.

Much of current literature on this issue focuses on the alarming trend toward elimination of recess in American schools due to the advent of increased demands for student performance on achievement testing requirements. This disturbing phenomenon has no serious research to support it and is actually counterproductive to increasing the academic achievement of students (Skrupskelis, 2000). The concerns raised by this issue usually follow four lines of questioning: (1) Does recess improve academic achievement, peer relations, and school adjustment? (2) Does recess help in relieving stress, anxiety, and depression and also help improve students' self-esteem? (3) Does recess actually promote and stimulate brain activity to make it easier to pay attention and retain more information? (4) Does recess promote a healthy attitude toward life-long exercise patterns?

Unhealthy weight gain due to poor diet and lack of exercise contributes to one in three children being categorized as overweight. Overweight children are much more likely to become overweight adults unless they adopt and maintain healthier patterns of eating and exercise (Reilly, et al., 2005). Obesity most commonly begins in childhood between the ages of five and six, and during adolescence; thus the "school-age" years. Self-esteem, emotional and mental health, as well as physical health are influenced by eating habits and exercise.

The Impact of Recess on Academic Achievement, Peer Relations, and School Adjustment

As pressure mounts for schools to increase academic learning, recess seems to be losing ground in students' school days. Many schools have chosen to eliminate outdoor activity in favor of more time in the classroom. Play is a form of learning that unites the mind, body, and spirit (Hayes & Wacyk, 2004). Many educators agree that recess has educational value, especially if it is well-organized and well-supervised by adults. Recess is one of the few times during the school day when children are free to exhibit a wide range of social competencies-sharing, cooperation, negative, and persuasive language-in a context that they see as meaningful (Dramstaad, 1999).

Much of current research suggests that recess does have a positive impact on classroom behavior and social cognitive development; thus, attributing educational relevance and value to recess (Pellegrini & Smith, 1993). According to a study conducted by The National Association of Physical Education (2002), physically fit children do perform better academically. The California Department of Education released a study that demonstrated a distinct relationship between academic achievement and physical fitness of California's public-school students (Wilson-Graham, 2002). In this study, reading and math scores were matched with fitness scores of fifth-, seventh-,

and ninth-grade students. Key findings of the study were: higher achievement was associated with higher levels of fitness at each grade level, the relationship between academics and fitness was greater in math (particularly at higher fitness levels), and students who met minimum fitness levels in three or more physical fitness areas showed the greatest gains in academic achievement at all three grade levels.

With increased emphasis on basic subjects like reading and writing, especially in the primary grades, language development has become the focus of much educational research. According to Waite-Stupiansky (2001), children who have expanded vocabularies and competent language skills translate these skills to learning to read and write the written symbols of language. Isbell and Raines (1991) found that children between the ages of four and six use more oral language and diverse vocabulary when engaged in open-ended activities such as playing with blocks than when they play in more structured settings. Outdoor venues provide a myriad of open-ended possibilities for children to express themselves; thus, improving their language and vocabulary development.

The social benefits of recess are also noteworthy. Recess helps students learn how to build relationships, to resolve and avoid conflicts, and to see others' points of view. When students are allowed to direct their own activities, it provides an important relief from stress while promoting positive self-esteem and positive attitudes toward school (Waite-Stupiansky, 1991). During recess, children are learning the things they need to know in the future, such as learning how to negotiate with peers to organize their play, how to make rules and to break rules, and how to respond to questions from others appropriately. In summary, recess is one of the few places and times during the school day when all of the developmental domains are utilized in a context that children view as meaningful.

The Impact of Recess on Stress, Self-Esteem, Anxiety, and Depression

An important consideration for this issue is whether a thirty-minute recess consisting of free play, outdoors when possible, could help in relieving stress, in improving self-esteem, and in reducing anxiety, and/or depression. Research shows that neurologists are discovering both planned and unanticipated results of play that are relevant to education and child development. "Play, the frivolous, unimportant behavior with no apparent purpose, has earned new respect as biologists, neuroscientists, psychologists, and other professionals see that play is indeed serious business and is perhaps equally important as other basic drives of sleep, rest, and food" (Frost, 1998). Hopefully, this unprecedented explosion of information about the importance of play for brain growth and child development will influence schools to rearrange attitudes and priorities about play, recess, and physical education.

The National Association for the Education of Young Children (NAEYC) describes unstructured physical play as a developmentally-appropriate outlet for reducing stress in children. When children are not allowed to participate in free play with peers on a regular basis, an important element of educational and socialization experience is lost. Recess is an important element of classroom management and behavior guidance, because it allows a mental change and release of energy and may facilitate subsequent

attention to more academic tasks and minimize disruptive behavior once students return to the classroom (Borgden & Vega-Matos, 2000). It is also an outlet for reducing anxiety and tension that often comes with having to achieve or needing to learn (Rogers & Sawyers, 1989). In organized play, adults should not interfere so that children can relax (Kidsource.com, 2004).

Development experts support the idea that recess allows potentially hyperactive children to “blow off steam,” while giving teachers a chance to see pupils’ social isolation that may not be apparent in the classroom. Research also suggests that children, especially those with attention deficit disorder, are more on task and less fidgety after a break or recess. This same research supports daily doses of “green time,” or playing in a green field at recess, which could supplement medications and other traditional treatments of ADHD (Mercola, 2004).

Regular physical activity has also been correlated with higher levels of self-esteem and lower levels of anxiety in adolescents (Centers for Disease Control and Prevention, 1997). Recess is the only time during the school day when children can determine and organize the direction of their own activities. This period of self-determination provides children with a sense of control and contributes to a positive self-esteem. According to Jensen (1998), a lack of control over events is related to impaired problem-solving abilities. The social relationships during recess also enhance the individual student’s positive association with school and provide a time to develop self-confidence while trying new things in a nonjudgmental environment (Tyre, 2003). Children learn about their own abilities, perseverance, self-direction, responsibility, and self-acceptance. Jambor (1994) contends that the educational role of recess for both social and cognitive development is becoming increasingly clear. He further asserts that children must function in both the social and cognitive domains if they are to successfully adapt to school and social norms.

The Impact of Recess on Attention and Learning

Do the exercise and oxygen that students receive from recess actually stimulate the brain and make it easier for students to be increasingly attentive and retain more information? The research in this area has “made great strides due to new technology that allows researchers to look inside the living brain as it performs specific tasks and functions” (Waite-Stupiansky, 2001, p. 18). “Though the cerebellum accounts for only one-tenth of the brain’s volume, it contains more than fifty percent of its neurons. These neurons connect to all parts of the cortex, feeding signals to and from the cortex,” continues Waite-Stupiansky (2001, p. 19). Moreover, there is “an unmistakable link between movement and thinking.” (p. 19).

Brain chemistry is one of the areas where the most interesting new data have been developed. Physical exercise has long been known to fuel the brain with oxygen and to cause production of chemicals including endorphins that have mood altering effects. Brink (1995) has revealed that each person’s capacity to master the new and remember the old information is improved by biological and chemical changes in the brain caused by exercise. Physical activity also releases a chemical called brain-derived neurotrophic

factor that enhances one's mood and assists in long-term memory formation (Kinoshito, 1997).

The connection of physical activity to memory and attentiveness has been a major part of the research, which has shown that the brain operates on a cycle of 90 to 120 minutes. Over the course of each cycle, the brain becomes alternately more and less efficient in processing either the verbal or spatial information (Klein & Armitage, 1979; Jensen, 1998).

Research supports theories about how recess helps the cognitive development of children and how eliminating recess may be counterproductive. Evans and Pellegrini (1997) suggest the literature about recess can be categorized by three major theories: the Surplus Energy Theory, the Novelty Theory, and the Cognitive Maturity Hypothesis. It should be noted that Evans and Pellegrini (1997) suggest that the limited research conducted on recess does not definitely support any of these theories; however, all three theories include the belief that children return from recess more attentive and ready to focus on course work.

The Surplus Energy Theory suggests that when children are sedentary for long periods of time, they build up extra energy. Fidgeting, restlessness, waning concentration, and general off-task behavior are indications that children need a break. Recess gives students a chance to exercise, fulfilling their need to "let off steam." According to this theory, described by Evans and Pellegrini (1997), only after this pent-up energy is released can children return to their classroom refreshed and ready to resume work and study. Although this theory is widely accepted, Smith and Hagan (1980) and several others contend that the idea of a build-up of energy in need of discharge makes little sense physiologically. Evans and Pellegrini (1997) point out that children often continue to engage in play, even after they are exhausted.

The Novelty Theory proposes that as students' classroom work becomes less interesting, they become less attentive and need playtime to re-introduce novelty (Evans and Pellegrini, 1997). According to this theory, recess allows children the opportunity to engage in activities different from academic lessons. Once children return to class, they perceive their school work as new and novel again.

The Cognitive Maturity Hypothesis suggests that both children and adults learn more by engaging in tasks spaced over time, rather than those that are concentrated (Evans & Pellegrini, 1997). According to this line of thinking, recess provides students with the breaks needed during their lessons to optimize their attention to class activities and time-on-task behavior (Evans & Pellegrini, 1997).

Saltz, Dixon, and Johnson (1997) suggest that during recess time, children's activities are often exploratory. This type of experience stimulates a child's cognitive development in several ways. Research, studying the effects of social play on learning, revealed that play behavior encourages creativity, promotes problem-solving skills, and improves a child's vocabulary. A child can apply the skills learned on the playground to classroom lessons and assignments. Research suggests that there may be a correlation (but not necessarily a cause and effect relationship) between engaging in unstructured play activities with peers and higher scores on intelligence tests. During recess, children are able to develop cognitive skills and learn to deal with social situations. For example, during a game of tag, children learn cooperation. Pellegrini and Glickman (1989) assert:

“to the extent that the play requires cooperation they learn to solve problems in such forms of play. They realize that in order to sustain their chase play with peers, they must take turns being the chaser or the chased. If they refuse to change roles, the game ends. This reciprocating role is a powerful predictor of the ability to cooperate and view events from different perspectives” (p. 24).

Recently the California Department of Education presented a study that indicated a “distinct relationship between academic achievement and physical fitness in California public schools” (Faison-Hodge and Porretta, 2004, p. 139). The study matched scores from Spring 2001 standardized achievement tests with state mandated fitness tests. The main point of the study revealed that the better the student scored on the fitness tests, the better they scored on the achievement tests. The California State Superintendent asserts that “the physical well-being of students has a direct impact on their ability to achieve academically” (p. 145). Weisner (2002, p. 309) points out that “research consistently demonstrates an association between physical activity and improved cognitive function, mental acuity, and mental status” (78). Miller (2001) points out in her article that children who participate in regular movement activities show significant gains in scores on standardized mathematics test. Using the meta-analysis of nearly 200 studies on the effect of exercise on cognitive functioning, Etnier, et al.. (1997) suggest that physical activity supports learning.

The Impact of Recess on Life-long Exercise Patterns

Because obesity becomes a lifelong issue, children and adolescents must learn to enjoy healthy foods in moderate amounts and to exercise regularly to maintain the desired weight. Social skills, such as teamwork, problem-solving, a sense of fair play and controlling impulsivity, are also taught on the playground as students engage in playful activities. In the absence of a physical disorder, the only way to lose weight is to reduce the number of calories being eaten and to increase the child’s level of physical activity. What better place to begin than the school recess for an active interlude from the cognitive- intensive instructional curriculum?

Before school systems choose to eliminate recess from the regular school day, more research needs to be conducted on the effects it has on student behavior, attitude, attention, and retention of knowledge. It is quite possible that in an attempt to raise test scores by spending more time on academics, schools may actually be hampering student achievement and ultimately producing lower test scores. Waite-Stupiansky (2001) stated that “daily outdoor recess is the single venue that provides students with the irreplaceable and unparalleled opportunity to refresh their brains, to exercise their hearts and muscles, to choose their own activities, to make friends, to work out problems, and to have fun” (p. 25).

References

- Bogden, J.F. & Vega-Matos, C.A. (2000, March). Fit, healthy, and ready to learn: A school health policy guide. Part 1: *Physical Activity, Healthy Eating, and Tobacco-Use Prevention*. Alexandria, VA: National Association of State Boards of Education.

- Brink, S. (1995). Smart moves: new research suggests that folks from 8 to 90 can shape up their brains with aerobic exercise. *US News & World Report*. (15 May): 76-84.
- Centers for Disease Control & Prevention, *Guidelines for school and community programs: promoting lifelong physical activity*. U.S. Department of Health and Human Services, March 1997.
- Dramstaad, A. (January 1999). All work and no play. *Communicator*. Retrieved 10/13/04 from Yahoo.com.
- Etnier, J.L., Salizar, W., Landers, D.N. et al. (1997). The influence of physical fitness and exercise upon cognitive functioning: a meta-analysis. *Journal of Sport and Exercise Psychology*. 19(3), 249-277.
- Evans, J. & Pellegrini, A. (1997). Surplus energy theory> An enduring but inadequate justification for school break-time. *Educational Review*. 49(3): 229-236. (ERIC Journal No. EJ556417).
- Faison-Hodge, J. & Poretta, D. (Apr. 2004). New study proves physically fit kids perform better. Adapted *Physical Activity Quarterly*. 12(2) 139.
- Frost, J.L. (1998). Prepared for presentation at the IPA/USA Triennial National Conference, Longmont, Colorado.
- Hayes, L. & Wayck, L. Should schools padlock the playground? *Partnership for Learning*. Retrieved 10/13/04 from Yahoo.com.
- Jambor, T. (1998). Recess and social development. Retrieved October 13, 2004 from <http://www.earlychildhood.com>
- Jensen, E. (1998). Teaching with the brain in mind. Alexandria, VA: Association for Supervision and Curriculum Development.
- Kidsource.com (2004) .<http://kidsource.com/kidsource/content4/school.recess.html>. Retrieved 10-20-04
- Kinoshita, H. (1997). Run for your brain's life. *Brainwork*.7(1), 8.
- Klein, R. & Armitage R. (1979). Rhythms in human performance: 1 ½ hour oscillations in cognitive style. *Science*. 204(4399) 1326-27.
- Mercola, V. (2004). Spending time with nature, a natural remedy for ADHD. Retrieved 10/20/04 from Dogpile.com.
- Miller, A. (2001). Get off that couch. *Newsweek*. 138(22) 78-79.
- Pellegrini, A.D. and Glickman, C.D. (1989). *Principal*,62(5), 23-24.
- Pellegrini, A.D. and Smith, P.K. (1993). School recess implications for education and development. *Reviewfor Educational Research*. 63 (1) 51-67. EJ463378.
- Reilly, J., Armstrong, J, Dorosty A. R. et al. (2005). Early life risk factors for obesity in childhood: cohort study. *BMJ* 2005; 330:1357. www.bmj.com
- Rogers, C.S. and Sawyers, JK. (1998). Play in the lives of children. Washinton, DC. NEYC 301.
- Saltz, E., Dixon, D., & Johnson, J. (1997). Training disadvantaged preschoolers on various fantasy activities: effects on cognitive functioning and impulse control. *Child Development*. (48920) 367-380.(ERIC Journal No. EJ164702).
- Skrupskelis, A. (2000). A historial trend to eliminate recess. *Elementary School Recess: Selected Readings, ames and Activities for Teachers and Parents*. USA: American Press, 124-126.
- Smith, P. & Hagan, T. (1980). Effects of deprivation of exercise play in nursery school children. *Animal Behavior*. 28, 922-928.

- Tyre, P. (November, 2003). Reading, writing, recess. *Newsweek*. 142 (18),66.
- Waite-Stupiansky (2001). The fourth R: recess and its link to learning. *The Educational Forum*. 66,(1) 16-25.
- Weisner, K. K. (2002). Reading, writing, and gaining weight in North Carolina schools. *North Carolina Medical Journal*. 63,(6) 308-311.
- Wilson-Graham, D. (2002). Retrieved from Yahoo.com on 10/16/04. New study proves physically fit kids perform better.