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Effects of Recess on Student Engagement

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Abstract

The purpose of this action research project is to determine the impact of recess on student engagement. Off-task behavior was observed in students in a fourth grade classroom for four weeks. The first two weeks the students did not receive recess, and the second two weeks the students did receive recess. Quantitative data was collected using the Academic Engagement Monitoring Form (Sprick, Knight, Reinke, and Skyles, 2010). Analysis of the data suggests a positive correlation between recess and on-task behavior.

Effects of Recess on Student Engagement

Teachers face increasing demands on their instructional time from both the state and local administration. In trying to balance the required number of minutes for all content areas, many times the number of recess minutes is impacted. Jambor (1994) defined recess as a “break in what one is engaged in. It is a period of time away from the task at hand; an interlude, a change of pace” (p. 17). Recess has been a scheduled part of the school day for as long as there have been schools (Pellegrini, 1995). Mulrine (2000) stated, “In the 1950s, three recesses were the norm” (p. 52). Recently, however, this has changed.

When the federal government enacted No Child Left Behind, many schools faced the seemingly impossible task of getting 100% of their students proficient in reading and math. Many administrators and teachers felt that more instructional time was needed to increase their test scores. That time had to come from some other part of the school day. Thus, non-instructional time such as recess was minimized (Ridgeway, Northrup, Pellegrin, Northrup, & Hightshoe, 2003). In 2015, President Barack Obama signed a new education act, The Every Student Succeeds Act (ESSA), into law. It required schools to educate all students to the same high standards, while maintaining schools accountability with test scores.

Proponents of recess say that recess is more than just exercise. It is a chance for children to practice social skills and handle conflict on their own (Mulrine, 2000; Waite-Stupiansky & Findlay, 2001). They also say focusing on cognitive tasks for an extended period is counterproductive to learning. Students need time to process

learning, and younger children need an even bigger change before being able to focus again (Waite-Stupiansky & Findley, 2001).

Those who are opposed to recess explain that it takes away from instruction at a time when schools are faced with scrutiny over test scores. In addition, teachers are faced with handling behavior issues during recess times. Principals are concerned with student safety during recess as well as liability for serious injury. Principals from low socio-economic schools feel that recess is problematic due to lack of training for supervisors (Simon & Childers, 2006). Finally, some teachers find it difficult to get students back on task after recess (Pellegrini & Smith, 1993; Jarrett, Maxwell, Dickerson, Hoge, Davies, Yetley, 1998). This action research's objective is to determine if student engagement during instructional time increases when students receive additional recess time.

Literature Review

The question that researchers continue to ask is to what extent recess benefits children. Many researchers point to novelty theory as an explanation for why recess matters to school-age children (Berlyne, 1966; Fein, 1981; Jambor, 1994; Pellegrini & Davis, 1993). According to novelty theory, a new event or object brings heightened attention. In school, this translates to children becoming less attentive to seat work as a function of time. Students then seek out something new in which to attend. When the diversion of recess wanes, students will then seek out new novelty in the classroom (Pellegrini & Davis, 1993).

Jarrett et al. (1998) studied two fourth grade classrooms that typically did not have a recess. In this study, the children were not aware that they were going to

have recess until right before it occurred. The researchers found that 60% of the children either were more on-task after recess or less fidgety. They also noted that children identified as attention-deficit disorder (ADD) benefited greatly from the break in instruction (Jarrett et al., 1998).

Pellegrini, Huberty, and Jones (1995) conducted three research experiments with kindergarten, second, and fourth grade students. The first experiment manipulated recess timing and pre and post-recess activities. The researchers found that kindergarten and fourth grade children were less attentive during extended instructional times. In addition, they found that boys found it more difficult to attend during extended instructional times (Pellegrini, Huberty, & Jones, 1995). The second experiment mimicked the first experiment, one year later. This study found that inattention scores were higher during extended periods of instruction. They also discovered that children were more physically active during recess after long periods of confinement (Pellegrini et al., 1995). The third experiment consisted of two groups of fourth grade students who were given indoor recess versus outdoor recess. They noticed that boys were more active than girls and that physical activity was greater after extended periods of instruction. However, the researchers did not note any significant correlations between recess behaviors and post-recess inattention.

Pellegrini and Davis (1993) conducted an experiment to determine the effect of timing, play duration, and classroom behavior from recess. Their experiment was with a third grade classroom in a small city in the southeastern United States. In this study, children were expected to sit quietly in their desks and work on assignments.

Some students received a shorter length of instruction, 2.5 hours while others received a longer length of instruction, 3 hours. Researchers observed students before recess and during recess. The researchers discovered that boys were more restless with seatwork as a function of time (Pellegrini & Davis, 1993). As the time on task increased, so did the fidgeting behaviors. During recess, boys engaged in non-social and social exercise and exercised more with shorter breaks than longer breaks. Girls engaged in more social sedentary play than boys did. The researchers noted that children who engaged in physical play during recess returned to class less attentive. However, those who engaged in less active, but social play were more attentive. In conclusion, they determined that boys tended to be more restless in the classroom with or without recess.

Rossi and Nimmons (1991) found that a twenty-minute mental break each day increased worker efficiency. Their research explains that the brain is on a cycle of ninety to one hundred twenty minutes, and on the downward portion of that cycle, it needs a mental break to reset itself. Wait-Stupiansky and Findlay (2002) explain that the brain cannot sustain continued mental effort for longer than ten minutes. This corroborates Jensen's claim that direct instruction should not exceed a child's age in minutes, for example 4th grade, 9-10 minutes (Wait-Stupiansky & Findlay, 2002). Between each period of direct instruction, children need some change in activities or movement. Wait-Stupiansky and Findlay (2002) summarize it by stating "all recent brain study data indicate a clear and positive link between physical activity and brain function" (p. 18).

Recess is not just for physical activity. Practicing social skills is also key during recess times. Children learn to see things from other's perspectives, practice social skills, develop friendships, suppress aggression, and handle conflict on their own. He explains that recess is one of the few times that children can interact with each other, developing their social skills (Blatchford & Sumpner, 1998; Pellegrini & Bohn, 2005; Mulrine, 2000). Jambor (1994) concurs, "The child is a natural mover, doer, and shaker" (p. 17). He continues, "Yet we all too often force children through stretches of time and tedium that would tax many adults" (Jambor, 1994, p. 17).

Methods

Participants

This action research project was conducted in a fourth grade general education classroom in a Midwestern school district. There are twenty-six students, twelve girls and fourteen boys. The district is about forty percent free and reduced lunch. The class is predominately white. Of the students, four are identified as special education students, one is an English language learner, and one qualifies for the talented and gifted program. One of the special education students has a one-on-one para educator with her full time, and is in the class about half of the time.

Data Collection

The focus of this action research project was to determine the effect of increasing recess minutes on student engagement. The article by Sprick et al. (2010) Academic Engagement Monitoring Form 5.4 was used to collect quantitative data. The class was observed for fifteen minutes from 1:45-2:00, or about midway between lunch break and the end of the school day. The class was recorded using

computers and a Swivl recording device. The researcher then watched the recordings and completed the Academic Engagement Monitoring Form. To complete the form, the researcher focused on a different student every five seconds. A plus was recorded if the student was focused on the lesson and a minus was recorded if the student was inattentive. Inattentive behavior for this study is defined as talking out of turn, out of seat, bothering others, and noncompliance.

The class was not accustomed to having an afternoon recess break, so over the course of two weeks, four observations were made on students' engagement in their class work. The following two weeks, an afternoon recess of fifteen minutes was added to the students' schedule. For the next two weeks, four observations were made on students' engagement in their class work, but this time the observation was completed after the recess break.

Findings

Data Analysis

A minimal amount of research bias should be noted even though the researcher was the reading teacher of the students. In the data collection process, the researcher marked a plus if the student was on task and a minus sign if the student was not on task. Since the same researcher collected data for all eight data collection periods, the definitions of off-task behavior were consistent from one time to the next. The results of the research would not directly impact the researcher except in knowledge gained.

Table 1

Data Collected

No Recess	Data Collection #1	12-Sep	Data Collection #2	14-Sep	Data Collection #3	19-Sep	Data Collection #4	20-Sep
	37/60	62% on task	43/60	72%	41/60	68%	45/60	75%
	46/60	77%	45/60	75%				
	44/60	73%	41/60	68%				
Number of occurrences of on-task behavior/total number of observations								
Addition of 15 minute PM recess								
	Data Collection #1	26-Sep	Data Collection #2	28-Sep	Data Collection #3	3-Oct	Data Collection #4	4-Oct
	53/60	88%	53/60	88%	52/60	87%	53/60	88%
	47/60	78%						
	50/60	83%						
Number of occurrences of on-task behavior/total number of observations								

The quantitative data was collected four times with no afternoon recess and four times with an afternoon recess of fifteen minutes. The total numbers of on-task and off-task marks were calculated into a percentage of students who were on-task during instruction.

In the first two weeks, four data collection periods were held when students did not receive an afternoon recess period. During the first data collection, students were on task an average of 72% of the time. The second data collection showed the same results of students being on task 72% of the time. The third data collection had students on task 68% of the time, and the fourth data collection was 75% of the time. The average percentage over two weeks of students on task without recess was 72%. According to Sprick et al. (2010), if students are on task less than 80% of the time, it indicates that an immediate intervention is needed to bring students back to actively engaging in the learning tasks.

During the next two weeks, four additional data collection periods were held, but this time the students had received an afternoon recess within forty minutes prior of the observation time. The first data collection period showed students on

task 83% of the time, an 11% increase of attention from two weeks prior. The second data collection period showed 88% of the students being on task, 16% improvement over the second data collection period without an afternoon recess. The third data collection period was 87%, and the fourth data collection was 88%. This was 19% and 13% improvement, respectfully. The average percentage of students on task with recess was 87%, an overall improvement of 15%. This score would fall into the “Caution” category of Behavior Benchmarks (Sprick et al., 2010). This rating encourages teachers to intervene as needed with specific students.

Discussion

Summary of Major Findings

The data shows that in each observation period, students were more on task in their learning when they had a recess period within forty minutes of their lesson. Therefore, there is a positive connection between recess and engagement in student tasks. The average improvement of 15% would equate to three or four additional students being on task in a classroom of twenty-five students. Even though there was a significant improvement in on-task behavior, the data being less than 91% of students on task indicate that additional interventions need to take place to improve on task behavior in this particular classroom.

Limitations of Study

One of the main limitations of this study would be how the weather impacted student attention during the second week of data collection. This elementary school is not air conditioned, and the humidity was quite high. Students were released early from school two days that week due to the temperature. An optimal learning

environment would be one with a controlled environment that allows students to be comfortable while learning. This may have impacted students' focus in the classroom.

A second limitation is the sample size. Only one fourth grade classroom was observed during this study. In order to fully understand the impact of recess on student on-task behavior, it would be best to study classrooms from many grade levels.

A third limitation was the novelty of the recording equipment in the classroom. Some of the off-task behaviors were because students were interested in watching themselves in the cameras. If the observation had been able to be completed in person, then perhaps the percentage of students' on-task behavior would have increased even further.

Further Study

Moving forward, it would be beneficial to determine how long students' attention can be sustained before a mental break is needed at a variety of age levels. In addition, there is no definitive research that suggests the optimal amount of time for recess breaks. Each of these studies would provide new insight into the debate over the benefits of recess.

Conclusion

The findings compiled from the data collected show that there is a positive correlation between the mental break that recess provides and students' ability to stay focused and on task in the classroom. Each observation period with a recess saw an increased number of students on task in the classroom. Even though more

research is needed to determine this study's reliability, there is enough preliminary data to show that recess is important for students' learning.

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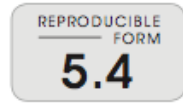
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Appendix A

Coaching Classroom Management



Academic Engagement Monitoring Form

Clear Form

Teacher: _____ Date: _____ Time: _____

Observer: _____ Class: _____ Activity: _____

For the next 5 minutes, focus on a different student every 5 seconds. Record a "+" symbol to indicate on-task or engaged behavior and a "-" symbol to indicate off-task behavior. When each student has been observed, begin the progression again. Continue until 5 minutes has elapsed.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60

Divide the total number of on-task (+) marks by the total number of marks (60).

Time on Task (academic engagement) = _____ %