Let’s Move! ... Now Let’s Learn: Incorporating Physical Activity into the Kindergarten Day

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Grays Woods Elementary School Intern
Kindergarten

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(Table of Contents to be finalized in the coming weeks.)
During the 2009-2010 year, as a Professional Development Intern through a partnership between the State College Area School District and Penn State University, I have had the opportunity to teach in a full-day Kindergarten classroom at Grays Woods Elementary School. This Kindergarten class is made up of twenty students, eleven being male and nine being female. All twenty children are unique individuals with different backgrounds and personalities, learning styles, and academic, social, and behavioral needs.

Overall, the classroom is extremely one dimensional in terms of cultural diversity. Nineteen of the twenty students are Caucasian. One child is of Middle Eastern dissent. Of the twenty students, two students live in homes where another language other than English is the primary language spoken in the home.

Academically, my students perform at a variety of academic levels, as is normal for any heterogeneous Kindergarten class. The academic breakdown of my class shows that the majority of the class is on target for reaching their academic goals by the end of Kindergarten. As of now, we only have one student who is above grade level in reading. Similarly, we have one student who is at the other end of the spectrum and is functioning below grade level expectations for this time of year. Three students leave the classroom each morning for twenty minutes to receive extra support in Language Arts. These students qualified for extra instruction based on the scores of the pre-Kindergarten assessment tests. The pre-Kindergarten tests assess student’s knowledge in letter recognition and letter sound frequency. These four students entered Kindergarten scoring below the benchmark for both categories. RTI, Response to Intervention, gives these students extra attention in both areas. Students are re-assessed frequently to monitor their
progress and predict where they will be by the end of Kindergarten. In mathematics, all nineteen students are reaching the Kindergarten benchmarks and are on the path to mastering many of the skills needed to enter first grade.

Even though the class is succeeding and moving ahead academically, behavior has been an issue for a handful of students in the class. Currently these students are on the list for Instructional Support. This means that over the course of the year these students will be watched by a team of specialists to decide if any interventions will be necessary to help with their educational and/or social development. After these children have been assessed, it is possible that individual learning and/or behavior plans will be put in place before the end of this school year.

There are six students who have individual behavior modification plans within the classroom. These modifications include morning checklists, special arrangements for seating, and daily use of a chart that monitors their behavior over the course of the entire school day. In particular, the six students who require specific behavior plans have trouble listening during whole group instruction, waiting their turn to speak, and respecting their other classmates.

**Wondering**

Since behavior management has been such a huge part of my time spent in the classroom this year, I decided to focus my inquiry on a topic that centers around giving my students the necessary tools to participate appropriately in whole group settings.

My big question is:

What impact might physical activity have on extending my students’ attentiveness to tasks?

**Sub-Wonderings**
What factors contribute to the attentiveness to tasks for my students?
What type of activity is most effective in increasing my student’s attentiveness to tasks?

Data Collection

Since I was ultimately hoping to see a growth in attention spans once physical activity has been implemented prior to whole group lessons, I needed to know the current length of attention span for each student I am focusing on. In order to do this, I will collect baseline data of each student using a time on-task chart. Also, so I have a concrete idea of what off-task behavior looks like for each child, I plan on relying on video recordings and Studio Code to help in my observation process. Once I have put my intervention in place for a week or two, I will use the same on-task chart to begin collecting data on each child’s attention span after physical activity has been added into our day.

Another piece of information I am interested in collecting data on is the student’s opinions regarding their difficulties paying attention for long periods of time. I will generate a very kid-friendly child interview to find out their feelings about sitting on the rug, listening during a lesson, and participating appropriately. I will implement this child interview two times, once before my intervention and once after.

Finally, I will use anecdotal observations of each child during times they are required to focus and pay attention. I believe that being able to compare my notes from the beginning of the inquiry process to the end will provide great data to use when drawing claims about my inquiry.

Data Analysis
When collecting data for this inquiry, I wanted to be sure that I had enough information to generate strong claims. I collect pre-intervention data in the form of video analysis and anecdotal notes of whole group lessons. Wanting to have the strongest evidence possible regarding their attentiveness to tasks pre-intervention, I was sure to record at least two whole group Language, Math, and Read Aloud lessons focusing on each of the four children in my subset. Once I had enough video recordings, I began to analyze each lesson and generated my findings into a master chart. This chart recorded the name of the activity, duration of the activity, and amount of time each student was on task and off task. Even though this chart was very clear, I wanted to be able to demonstrate what I was seeing more visually. I took the information I gathered in the chart and created a bar graph for each lesson.

The next step of my data analysis was to review and transcribe the interviews I conducted with the four individual students I was basing my inquiry around. I conducted the first round of interviews before I began to implement physical activity before whole group lessons. I watched each interview over again and typed the conversation. I wanted to be able to use their feelings and opinions in my final product without actually showing their faces.

Finally, I completed the same data analysis steps for my post-intervention video recordings. I implemented physical activities prior to whole group lessons, recorded those lessons, and then compiled my findings using a master chart and bar graphs. Using these finals charts, I began to make comparisons between the pre-intervention graphs and the post intervention graphs. In doing this, I was able to develop three strong, evidence-based claims.
Evidence Based Claims

Claim #1: Unlike Language Arts and Math, a Read Aloud holds the students attention for uninterrupted periods of time.

Before beginning this inquiry project, I never realized how powerful a read aloud was in capturing the attention and focus of every student on the rug. I discovered this to be true while watching both pre-intervention and post-intervention video recordings of read aloud lessons. It was amazing that every child, especially the children in the focus group, sat attentively and still with their hands in their lap for almost the entire book. Any displays of inattentiveness were almost always extremely brief and calm. For example, a student would play with their sneakers or lean over to whisper to a friend, which was much less disruptive than during other lessons when these students might have begun rolling on the rug or carry on lengthy conversations with one another.

One of the most interesting and compelling pieces of evidence I gained to back up this claim came from the students themselves. Through student interviews, I was able to obtain direct quotes from the students that matched up entirely with what I was witnessing through video recordings and anecdotal notes. For example, when Student B was asked what his favorite activity on the rug was, he responded without hesitation, “Read aloud.” Similarly, when Student A was asked the same question, he said, “I don’t have just one favorite time, but I really like read aloud.” It was fantastic to hear these sentiments from both students because they are the individuals who struggled the most with keeping their focus on the rug. Their feelings and opinions about their time spent on the rug matched what I was seeing when analyzing the data I collected over the course of my inquiry.
For me, this claim is the most definitive claim I was able to make. When looking at the data, it can be concluded that the four students in the focus group are the most attentive during read alouds. For example when comparing Student A’s 5 and a half minutes of off-task behavior during a language lesson to his one minute of off task behavior during a read aloud, the claim is strongly reinforced. The same can be said for Student D who was off task for five and a half minutes of language, but only off task for two minutes of the read aloud. Although I reached this claim using information gathered pre-intervention, the post-intervention data did nothing to negate the claim. I feel confident saying, without any reservations, that the focus group of students is the most attentive during read alouds.

Claim #2: Although physical activities prior to whole group lessons helped to lower inattentiveness at times, it was not eliminated completely.

After comparing the pre-intervention bar graphs with the post-intervention, it is apparent that although physical activities prior to whole group lessons seemed to help lower inattentiveness at times, students in the focus group still struggled to stay on task at times on the rug. Overall, the results of my data collection show that each student’s time on-task increased by at least two or three minutes. Although two minutes may not seem like a big increase in attention, I was extremely pleased with these results for the four students in the focus group being that attending has proved to be so difficult for them in the past.

(More analysis to come)

Claim #3: Physical activity helped to lessen the degree of off-task behaviors.
In comparing the video recordings taken during my pre-intervention time to videos taken after physical activity had been implemented, I feel confident in stating that the students in my focus group appeared more in control of their actions on the rug. Even though this is not to say that there were no actions that showed inattentiveness, these actions were much less extreme than before the intervention. For example, one student who before the intervention had a tendency to rock side to side for the majority of the lesson only displayed a need to play with his sneakers more than halfway through a lesson taught after physical activity.

The chart below, compiled from anecdotal notes and observations of video recordings, illustrates how the degree of off-task behavior seemed to lessen after physical activities were implemented. Although this chart shows there were still off-task behaviors being demonstrated, the types of behaviors that existed were much less extreme.

<table>
<thead>
<tr>
<th>Student</th>
<th>Off-Task Behavior Prior to Intervention</th>
<th>Off-Task Behavior Post Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>rocking, excessive talking, laying on the floor</td>
<td>playing with hands, looking at/ playing with sneakers</td>
</tr>
<tr>
<td>Student B</td>
<td>extreme rocking, flailing arms and legs, laying/rolling on floor</td>
<td>playing with shoe laces, fidgeting with hands</td>
</tr>
<tr>
<td>Student C</td>
<td>excessive talking, crawling on floor, moving from spot to spot, swinging head back and forth</td>
<td>minimal talking, touching other students</td>
</tr>
<tr>
<td>Student D</td>
<td>physical with other students, excessive talking, moving from spot to spot, laying on floor</td>
<td>minimal talking, touching other students, playing with sneakers</td>
</tr>
</tbody>
</table>

Table 1: Degrees of Off-Task Behavior

**Reflections and Implications for Future Practice**

When I decided on this topic for my inquiry, I was searching for a way to help my students find it easier to spend longer amounts of time on the rug in order to get
more out of each lesson and without being a disruptive to their fellow students. I took on this entire project with the hope that taking a few minutes out of each day to incorporate physical activity would help make whole group lessons more enjoyable for the select group of students. Although physical activity did not completely eliminate the off-task behavior demonstrated by the students in the focus group, it absolutely helped them channel some of their excess energy in a more positive way.

Even though this project might be completed, what I have learned through this inquiry will have implications for future practices in my classroom. One of the most valuable pieces of information I took away from this project is that Kindergarten students need the opportunity to release some energy throughout the course of the day. Expecting five and six year olds to sit still and calm on the rug for extended periods of time must be coupled with opportunities for them to move and be active.

This conclusion has also led to new practices when presenting my lessons. After seeing the results of my inquiry, I have recently begun implementing physical activity into my lessons to keep every child engaged and listening. Giving my students the opportunity to respond to questions with hand motions provides them with chances to move around a little when sitting on the rug. Incorporating motions into my lessons not only helps the students, but it also helps me see who is engaged and understanding the concept. So far, it has been helpful for both my students and me.

Although I learned a great deal of information from conducting this inquiry, if I were to do it again, there are certain variables I would take into account. Going into
this project, I thought I had considered every possible variable, but many of the components of this inquiry are very subjective. For example, my idea of off-task behavior might look and sound different to someone else. Although I had clear criteria when looking at the video recordings, I am sure there were some behaviors that went unnoticed.

Another component of this inquiry I might change would be the types of activities I implemented before whole group lessons. Since my group of students this year thrives off of routine, I was nervous to incorporate new exercises that we had never done before out of fear of them being able to handle themselves appropriately. If I were to do this project with future classrooms, I would use many different activities that exerted even more energy. I would begin this early in the year to teach them how to properly exert their energy and then calm themselves to get ready to learn again. I wonder if different exercises would have shown even greater results and done more to positively impact my students’ attentiveness to tasks.

Even though I can list a variety of things I would change about my inquiry project, I am still so pleased with the results and what I have learned. Seeing even the slightest increase attention from my subgroup of students was very rewarding. I hope that this project has helped them in a positive way and made them feel more comfortable and in control of their energy during whole group lessons. In conclusion, I have discovered that there is a huge benefit for all students when they are given the chance to be active throughout the school day. Since as an educator I
believe it is my job to give my students tools to be successful inside the classroom, I will continue to look for ways to help my students thrive.