

GoNoodle Movement Breaks in the Classroom

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## **Chapter 1: Introduction**

### **Abstract**

“Ms. Smith (pseudonym), can we please do a GoNoodle break first?” asked one student. After one full ninety-minute block of ELA is finally over, the students have grown tired and restless. “Yes, please Ms. Smith” exclaimed another student, “we’ve been working quietly for so long!” The students are about to transition to a sixty-minute block of math instruction. With the rigorous demands of the new Common Core State Standards that this district has adopted, the expectation is that students sit for long periods, working quietly, and often listening to instruction and working independently. Between these two long instruction sessions in this classroom, the students often take a movement break called GoNoodle. This online classroom movement tool allows the students to dance to a Zumba video for three to four minutes to get them up and moving before they need to sit quietly and attentively for another long block of instruction.

### **Problem Statement**

In today’s classrooms, the expectation is that students sit quietly for long periods. John Helgeson (2011) notes that teachers need to do more to engage their students and a great strategy for this is through movement in the classroom. The new Common Core State Standards, which most states have adopted, require rigorous demands of both teachers and students, increasing instruction time and decreasing time for movement and exercise. Students are required to sit for long periods, particularly during math and ELA, which is a required ninety-minute block of literacy instruction every day (not including writing instruction) and a sixty-minute block for math. Students often get restless, and can only hold their attention span for so long. Carrie Braniff (2011) states that, “students are not actively involved when there is no movement in classrooms and teachers constantly lecture” (p. 2). Students are not actively involved for a majority of the time in the classroom due to a lack of movement. When students get up and

move, the expectation is to do so in a practiced and regulated manner. Often times, students can be seen in schools all across the country walking quietly in a single file line, like robots.

### **Significance of the Problem**

Eric Jensen (2000) states that movement breaks in the classroom allow students to move and get exercise not only to get their sillies out, but also to promote brain function. Kercood, Ph.D. and Banda, Ph.D. (2012), both Associate Professors of Special Education, found that students have trouble sustaining attention for long periods. When students have trouble sustaining attention, students display three to eight times as many negative behaviors in comparison to their peers. Braniff (2011) noted, “There is research that indicates that implementing exercise activities throughout the day can help improve academic performance and reduce disruptive behaviors” (p. 2). However, there is a lack of research and training pertaining to the utilization of movement in the classroom, so many teachers do not use movement breaks in their classrooms.

Braniff (2011) of Wayne State College conducted an action research study to determine whether exercise in the classroom helped students. Braniff implemented several strategies that would, “help students work together, have opportunities for transitions and movements, and provide a reduced stress environment” (p. 1). Braniff found that movement influenced learning, alertness, attention, and nerves of students. This article also raised the issue that teachers need to define their own active classrooms. Teachers need to determine which strategies work for their students, which could change from year to year. Teachers need more training pertaining to movement in the classroom to avoid challenges and expand their possibilities and resources. There needs to be more research to investigate the different resources and activities available for

movement breaks, and how to implement these movement breaks into their own classrooms properly.

Childhood obesity is also on the rise in the United States. Reilly, Buskist, and Gross (2012) outline the issue of the lack of physical education in schools today. Movement breaks in the classroom can increase the amount of exercise for a student in a school day. Reilly et al. state that, “physical activity promotes biological changes in the brain that enhance adaptability and connections in the brain” (p. 63). Research shows that movement and exercise increase blood flow to the brain (Jensen, 2000). The increase in blood flow to the brain results in a positive effect on the learning for students when these movement breaks are utilized properly.

Since movement and exercise have been shown to be beneficial for the brain and the learning process, it is crucial that educators learn the appropriate techniques and activities, and how to utilize movement and exercise in the classroom (Jensen, 2000). McMinn, Rowe, and Trim, (2011) suggest that teachers steer away from utilizing movement in the classroom due to lack of time, education, and resources. Many teachers were negligent to implement movement into the classroom due to lack of training and barriers that they found in their own classrooms (Webster, Erwin, & Parks, 2013). Movement and exercise can be implemented into the classroom with the proper training and available resources.

### **Purpose of the Study**

The purpose of this study was to explore how GoNoodle movement breaks affect student learning and behavior. The goal was to determine whether these Zumba breaks in the classroom truly help or hinder the learning environment in the classroom. This study was designed to focus on the impact movement and exercise has in the classroom and its effects on both the students and the teachers. If teachers are given the right resources, even the busiest of classrooms can find

the time and reap the benefits of movement in the classroom. The following question will guide my research: What impact does GoNoodle Zumba breaks have on academic achievement and student behavior?

### **Study Approach**

I explored and implemented several different movement breaks from GoNoodle once a day during the transition between ELA and math in a fourth-grade classroom. I explored the resources available and then shared my findings with the teacher of the class where I observed. I took anecdotal notes and recorded grades for four randomly selected students from the class. I also conducted surveys with both the students and the teacher before and after implementation to determine the effects that the movement breaks had on academic achievement and student behavior.

### **Rationale & Summary**

As a Teaching Assistant in a blended fourth-grade classroom, I observed twenty-two students every day sitting at their seats for long periods, working quietly and moving around like robots. In the classroom, ELA begins in the morning and lasts for a full ninety-minute block. Immediately following the ELA block, the students transition to a sixty-minute block of Math instruction. I observed the students becoming restless and inattentive. Many disruptive and off-task behaviors occurred once math began. I was interested to see if movement breaks could benefit this class. By exploring and implementing movement breaks using GoNoodle, I hoped to determine how movement breaks affect student learning as well as their behaviors during each lesson.

## **Chapter Two: Literature Review**

Limited research exists on movement and the benefits in the classroom. However, existing research shows that movement and exercise can be beneficial to our students. Helgeson (2011) reports, “adding movement to classroom activities not only engages students, but also may improve the classroom climate and reduce disruptions” (p. 80). Many teachers are hesitant to implement movement into their classrooms due to the lack of research and resources available. Webster et al. (2013) found that, “little research has explored variables associated with classroom teachers’ physical activity promotion tendencies” (p. 2). Teachers need reliable resources and ways to implement these movement breaks into their everyday busy classroom.

This study is an investigation into the different resources available, as well as how to implement them into the classroom with ease. This section of the report will be broken into four sections to address the complexity of the matter: the science behind movement and the brain, movement with special needs/inclusive classrooms, movement techniques and resources, and teacher perspective on movement in the classroom. In each of the subsections, I will discuss the current research and findings.

### **The Science behind Movement and the Brain**

Jensen (2000), a former teacher and current educational researcher states, “while there is an increasing amount of sedentary instruction, there is much research to suggest that activity is better for students” (p. 34). The expectation is that students sit still for long periods, making it hard for students to concentrate. Almarode and Almarode (2008) found, “the student brain can pay attention for approximately 15 minutes before needing a break” (p. 32). Students are often sitting through a forty to sixty-minute block of instruction. Much of this time students are working quietly at their seats. Almarode and Almarode also found that ignoring these time

constraints could result in “more disruptive behavior, inattentiveness, or lack retention of most of the information” that is being taught (p.32).

Jensen (2009) determined seven scientific-based reasons why students’ movement in the classroom will increase their learning. First, movement provides circulation, meaning movement of more blood and oxygen to the brain, which in turn helps the brain to focus better. Another reason Jensen stated was episodic encoding, simply changing the scenery or changing your position in the room can enhance spatial learning. Just a simple seat change or a transition out of the room could be of benefit. Among the benefits of movement, Jensen also outlined the disadvantages to sitting for too long. Jensen states, “the human body, for the last 400,000 years, has primarily been walking, sleeping, leaning, running, doing, or squatting. It has not been sitting in chairs” (p. 33). Jensen points out the negative effects that sitting has for long periods on the physical body including stress on lower back nerves and the reduction of circulation. When your physical body is experiencing negative effects, so will your mental self (Jensen).

### **Movement for Special Needs/Inclusive Classrooms**

Movement in the classroom can be especially beneficial for students with special needs. McMinn, Rowe, and Trim (2011) highlight the issue that students with special needs are less active in comparison to their general education peers. They suggest increasing physical activity level through classroom movement breaks. McMinn et al. conducted a study on the use of classroom activity breaks for students with special needs. The study consisted of eleven participants, all who were specialist teachers who worked with students with special needs. These eleven professionals evaluated three classroom activity break programs; *The Class Moves!*, *Energizers*, and *Active Every Day*. The professionals assessed each program on its suitability for students with special needs and how these movement breaks would affect their

students. The results were that the professionals believed these movement break activities could help to improve students with special needs physical and emotional development.

Researchers McLaren, Edwards, Ruddick, Zabjek, and McKeever (2011) state that, “neuro-scientific evidence has strengthened the premise that movement and cognitive function are fundamentally related” (p. 102). There is a very clear need for movement and physical activity in the classroom, particularly for students with special needs. However, some students with special needs will face challenges with certain movement breaks or physical activity. Many students with disabilities have gross or fine motor impairments that can restrict their movement or cause safety concerns during a movement break (McLaren, et al.). These challenges need consideration when implementing such practices into the inclusive classroom (McLaren, et al.).

Skoning (2011) suggests that, “to meet the needs of kinesthetic learners, teachers often add quick movement activities between lessons to allow children an opportunity for movement” (p. 1). Skoning states that movement and dance in the classroom have many benefits including increased understanding of content and a reduction in disruptive classroom behaviors. However, Skoning noted that movement breaks must be used in meaningful ways to be effective. She states, “Teachers continue to search for better ways to help their students learn through movement and better methods to evaluate that learning” (Skoning, p.3). Skoning found that dance was a great way to incorporate movement into the classroom and meet the needs of diverse groups of students.

Movement in the classroom for students with special needs is particularly important because these students often get frustrated and/or bored, resulting in increased disruptive behaviors and a lack of attentiveness (Braniff, 2011). Mulrine, Prater, and Jenkins (2008) found, “research evidence shows that implementing exercise activities throughout the day can help

improve academic performance and reduce disruptive classroom and social problems” (p. 16).

Movement in the classroom cannot only decrease behaviors in these students; movement breaks can also increase student performance, which is essential. All students can benefit from movement in the classroom, particularly students with ADHD. Students with ADHD can be easily distracted and movement breaks can help these students focus better and stay on task for a longer period of time (Mulrine, et al.).

### **Movement Techniques and Resources**

Kercood and Banda (2012) conducted a study to determine the effects of movement in the classroom on listening comprehension for both students with and without attention difficulties. Four students were selected at random ranging in ages from ten to twelve years old. After being assessed for their baseline, each student was subjected to two different conditions while taking a listening comprehension assessment, students were given a therapy ball to sit on while listening to a reading passage and then students were allowed to doodle while listening. Findings showed that students were able to answer more comprehension questions correctly when utilizing a physical activity as compared to their baseline; however, both the therapy ball and doodling were found to be equally effective strategies. Both of these strategies can be implemented into the classroom easily and can benefit both students with and without attention problems. These professors suggest that more research is needed in order to determine the effects of physical activity and how to implement movement and exercise into the classroom properly.

Helgeson (2011) noted one study that compared time spent in physical education classes to academic achievement in both math and ELA. This study has many limitations, since it only utilizes physical education classes, but the study found that females in particular performed better academically when they spent more time in physical education classes, which confirms

Kercood and Banda's findings (Helgeson). These findings support the idea that movement and exercise is important for all students, but does not provide any evidence in a regular classroom setting. Helgeson, also noted, "Clearly more research is needed to demonstrate a correlation between exercising and academic success" (p. 82).

### **Teacher Perspective on Movement in the Classroom**

Braniff (2011), a fourth-grade teacher herself, conducted a study to support the benefits of exercise in the classroom. Braniff was concerned with the amount of inactive learning she observed while substitute teaching, so once she became a teacher of her own classroom, Braniff decided to make some changes. Braniff completed an action research study to explore the effects of exercise and movement in the classroom. She completed her research in her own fourth-grade classroom where she implemented movement breaks into the school day for three to five minutes at a time. Braniff collected data through observational notes, student surveys, and journal entries. She found that movement breaks and exercise increased students' ability to reach their full potential, while reducing stress in her students. Braniff claimed that movement and exercise have "a valuable place in the classroom" (p. 1).

The primary role for classroom teachers is instruction. However, teachers must ensure that their students are ready to focus and remain on-task in order to retain new information. Webster et al. (2013), former physical educators state, "It is important for classroom teachers to be able to collaboratively and effectively plan for, implement, and evaluate physical activity integration in their classrooms" (p. 315). However, Webster et al. also point out that there is very little research that, "has explored variables associated with classroom teachers' physical activity promotion tendencies" (p. 315). There is still much to be learned. Webster et al. also state, "Research has shown teachers' efficacy beliefs directly influence teaching behavior" (p. 315).

When teachers have more confidence, they will be more open to trying new things. With more research and training, teachers can improve their efficacy beliefs about their ability to use movement in the classroom. Teachers have a very limited amount of time and resources, so they need more support and tools in order effectively integrate movement into the classroom (Orlowski, Lorson, Lyon, & Minoughan, 2013).

### **Summary**

There is limited research in the areas of movement and exercise in the classroom and how movement breaks affect student behavior and academic achievement. I discovered four themes to the research that is out there: science behind the movement, movement for special needs, movement techniques and resources, and teacher perspective on movement in the classroom. There is a lack of research studies pertaining to movement and exercise in the classroom. Therefore, I believe it is important that more research studies be conducted in classrooms across the country to determine the true impact that movement and exercise have on student learning and behavior.

### **Chapter 3: Study Design**

This study was designed to explore the use of GoNoodle in the classroom. GoNoodle is an online resource for teachers, which provides different movement breaks, such as Zumba, to use in the classroom. During and after my study, I provided the teacher with valuable resources and findings while also addressing her questions and concerns. In this section, I will provide the context of my study concerning participants, setting, procedures, and methods of data collection. I will also discuss my positionality as the researcher and the criteria for trustworthiness.

#### **Participants and Setting**

I conducted this study with an inclusive fourth-grade classroom with twenty-two students. The classroom included twelve boys and ten girls. Both the students and the parents were required to sign an informed consent form in order for students to be able to participate in the study. All students who returned both forms signed were surveyed at the beginning and end of the study. From these returned forms, four students were selected at random to be more closely observed and their grades were recorded. This study took place in a suburban school district in western New York State. The district that this study took place in has a population that is primarily Caucasian and at least 25% of the people in the district live below the poverty line; however, the district is made up of a diverse socio-economic status. Six students in the classroom I conducted my research in were classified as having special needs. This class contained a diverse group of students both academically and behaviorally.

#### **Procedures**

This study was conducted over a 6-week span. When I began my research, I provided the students, who had both forms signed and returned, and the teachers with separate surveys to get their opinions on the use of movement and exercise in the classroom. The teacher survey was

intended to find out what the teacher knew about movement and how she believed it affected her students learning and behavior. The student survey was intended to find out how students felt about their instruction, when they felt like they needed movement breaks, and how they believed the movement breaks impacted their learning. I then began sharing ideas with the teacher and providing suggestions for movement breaks to utilize in her classroom. I observed the classroom daily for six weeks during the transition between ELA and math and for the duration of the math lesson. I alternated implementing a movement break into this transition every other day to determine the difference. I took anecdotal notes on the four randomly selected students based on their academic achievement and their behaviors before, during, and after each movement break, as well as on the alternating days when there was no movement break. I also used a recording sheet to determine grades for these students after performing a movement break versus a day a movement break is not used. Student work was graded on a scale from 1-4 and recorded accordingly. At the end of the study, the survey for the teacher and the students as well as my anecdotal notes and recording sheets were analyzed.

### **Methods of Data Collection**

I used several methods of data collection while conducting my research. I collected information from student and teacher surveys, which were given at the beginning and again at the end of my study (same survey each time), my observations/anecdotal notes, and documents. These methods provided me with a deeper insight into the effects that movement breaks in the classroom have on student behavior and their academic achievement.

### **Surveys**

The student survey (Appendix A) served to help identify how students felt about movement breaks in the classroom. There were questions about how the students felt about

sitting for long periods and whether they enjoyed movement breaks or thought that movement breaks helped them learn. At the end of the study, students were able to share which movement break activities they liked best. They also were able to share when they felt the movement breaks were most appropriate for them and how they felt that they helped each students learning and behavior.

The teacher survey (Appendix B) allowed me to get a better perspective from the teacher in the classroom. This survey asked the teacher whether she used movement in the classroom and if she thought movement breaks could be implemented easily. This survey also allowed the teacher to share any movement break strategies she used in the classroom and when and how she implemented these strategies. This survey, along with the student survey, was given again at the end of the study.

### **Anecdotal Records**

I recorded and kept anecdotal notes (Appendix C) based on my observations in the fourth-grade classroom before, during, and after each movement break. This helped me keep track of student behaviors and student attentiveness during each lesson. I also took notes on student achievement to see if there was a relationship between the movement breaks and the students' ability to sustain information.

### **Documents**

I also took record of student work based on their test scores and their practice worksheet scores. Every math lesson begins with forty-minutes of instruction, followed by twenty-minutes of independent work on a practice sheet. I looked at the four randomly selected students' work throughout my study, recording their grades on each practice sheet (Appendix D) on a scale of one (lowest) - four (highest) during math, noting which lesson was done after a movement break.

I recorded this information during each math lesson whether or not it followed a movement break.

### **Positionality as the Researcher**

I graduated from SUNY College at Brockport with my initial dual-certification in childhood and early childhood education and with students with disabilities. I began subbing soon after graduation. Since then, I have been working on my Master's in Literacy at the College at Brockport. I spent two years substitute teaching in the district that I conducted my research in. Finally, I received a full-time position at one of the elementary buildings in the district as a Teaching Assistant for fourth-grade. In the classroom, students sit through a ninety-minute period of ELA followed by a sixty-minute period of math instruction. The teacher I chose to observe had not yet implemented any movement breaks using GoNoodle, but she did use some forms of movement breaks such as stretching or doing jumping jacks once in a while with her students.

### **Trustworthiness**

I conducted a qualitative study and utilized the movement breaks on GoNoodle to ensure my research design was valid. I ensured prolonged engagement, as my research was conducted over a six-week span. I also ensured persistent observation by constantly observing and recording data, utilizing three different types of data. I kept an open mind while conducting my research to a diversity of interpretations for data. I also outlined my research process and the data found is available for review. Given the qualitative study, transferability is limited, but another researcher could conduct a similar study.

### **Chapter 4: Findings**

This study was designed to determine the effects that GoNoodle movement breaks in the classroom have on student behavior as well as their academic achievement. I conducted my research with one classroom where I used triangulation to collect data. The data was collected through surveys for both the teacher and the students, anecdotal notes about four randomly selected students, and recorded grades for these four students. The students engaged in a movement break using the tool, GoNoodle, during the transition between ELA and math every other day. During this time, I would play a two to four minute Zumba video to get the students up and moving. On the alternating days, these students transitioned to the next subject without a movement break.

Every day I recorded anecdotal notes on the four randomly selected students based on their attentiveness to the lesson, their engagement in the lesson and any on/off task behaviors. These behaviors and their engagement were coded by using smiley faces for on task behavior and frowns for off task behavior. If the student was on task the entire time, they received one smiley face. However, if they displayed off task behavior they received a frown face each time they displayed such behavior. I defined off task behaviors as students looking around the room, playing with objects at their seats, and not raising their hand or engaging in the lesson and/or giving answers that were completely off topic.

Student D's behavior was a bit more extreme and her results may have skewed some of the data. This student is diagnosed with Down's syndrome and has a behavioral aide. Student D's disability causes her to have more frequent negative behaviors and this student is off-task more often than the other students in the classroom are. I continued to collect data on this student; however, it is important to note that her disability caused the increase in negative and/or

off-task behavior. Often times these movement breaks actually caused this student to be more disruptive than without a movement break because the movement breaks increased the energy level in this student.

I recorded all four students' grades by using a number one to four based on a sliding scale to determine each student's grade and understanding of the topic. A one meant the student was not meeting the standard and a four meant the student was exceeding the standard. After each math lesson, students would complete an independent practice sheet for math and I would record their grades based on these worksheets.

Finally, I collected data through surveys given to both the students and the classroom teacher before and after conducting my research. Out of twenty-two students, seventeen returned both signed consent forms, so I was able to use their surveys for my research. I coded the responses by color; green for a positive response, yellow for a neutral response, and red for a negative response. I focused my data collection on the questions that asked the students if they felt that movement breaks helped them to learn and how they felt about sitting for long periods. On the teacher survey, I focused on how the teacher felt that the movement break was helping her students learn and focus attentively.

After the data was analyzed, I formulated four findings to answer my research question; what impact does movement have on academic achievement and student behavior? My first finding was that students were less tired after a movement break. This led to my second finding; students had more stamina during the lesson after a movement break versus not having one. However, I also found that students had a tougher time settling down and focusing on the lesson after a movement break. I also found that students' grades did not vary very much after a

movement break versus when there was no movement break. Students' grades sometimes improved after a movement break, but not by much.

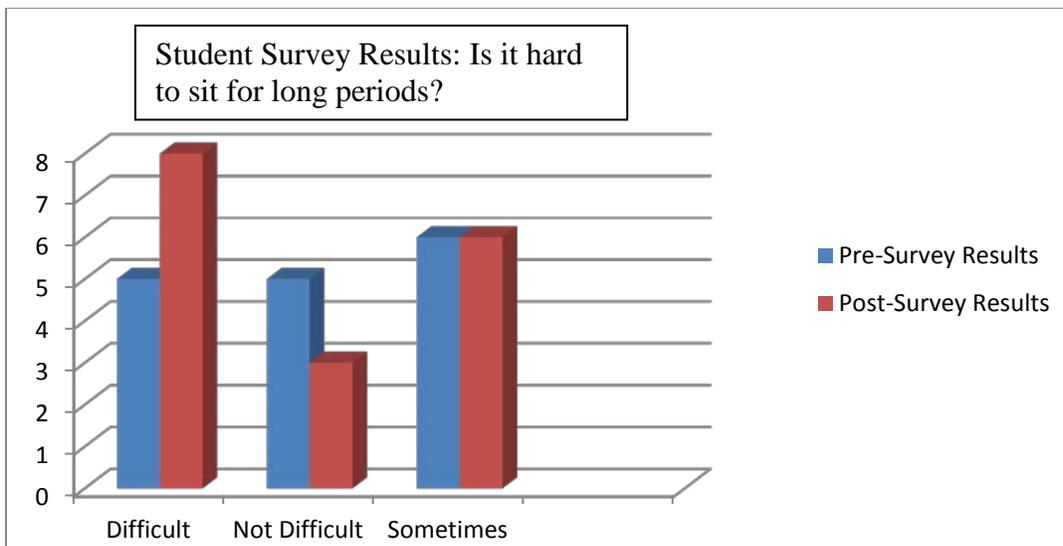
**Students were less tired after a movement break and the students typically had more stamina during the lesson after a movement break.**

Students were given a survey before I began my research (pre-survey) and again at the end of my data collection (post-survey). These surveys were the same, but answers varied after experiencing the movement breaks first hand. The pre-survey showed that many students reported feeling tired after sitting for long periods. The post-survey confirmed this finding and provided even more support for this finding as these answers were given in more detail after experiencing the movement breaks.

In the pre-survey students kept their answers simple. When asked if it was difficult to sit for long periods of time students mostly answered with short answers such as a simple yes, no, or sometimes with very little detail as to why. One student reported, "I can last for an hour, but any longer then it gets hard." Another student reported that she felt like she needed to stretch after sitting for long periods. Out of seventeen students, five students reported that it was difficult to sit for long periods, five students reported having no difficulty sitting for long periods, six students stated that it was sometimes difficult, and one student did not answer this question. Some of the students who answered using 'sometimes' stated that the difficulty level to sit for long periods also depended on the topic or interest level. If the topic was interesting, students felt like they could sit longer before feeling the need to move.

The post-survey confirmed that students felt tired after sitting for long periods. The number of students who believed that sitting for long periods was difficult increased after experiencing movement breaks and the number of students who believed it was not difficult

decreased. The responses in the post-survey were given in much more detail to support students' answers. In the post-survey, eight students believed that it was difficult to sit for long periods. Three students believed it was still not difficult to sit for long periods and the number of students who believed that it was sometimes difficult remained the same at six students. Seven out of the eight students who reported that it was difficult to sit for long periods backed up their answers by stating that sitting too long made them feel tired and movement breaks helped them to wake up. One student stated, "Yes it is hard because I get sleepy." Another student answered, "Yes because I need to move and my body has to be awake." After experiencing the movement breaks, many students acknowledged that sitting for long periods could make them tired and they felt like they needed to get up and move to be able to focus.



**Figure 1:** This chart shows that more students found it difficult to sit for long periods after research was conducted.

These findings were confirmed again in my anecdotal notes. I often observed students looking tired including yawning, resting their heads on their hands, and slouching when there was no movement break. Some of these same behaviors were still observed after a movement break was implemented, but were observed less frequently, as explained in the following paragraphs. Without a movement break, tired-like behavior was noted seventeen times between

the four students observed. One student (student A), in particular was noted out of ten observed lessons when no movement break was implemented to display tired-like behavior (typically resting his head on his hand and slouching) nine out of ten times.

These same four students continued to display some tired-like behavior after a movement break was implemented. However, when this behavior was displayed it was typically after the first fifteen minutes of the lesson instead of beginning the lesson in that way. Student A who displayed tired-like behavior nine out of ten times without a movement break continued to slouch and rest his head on his hands five out of the thirteen times observed after a movement break. However, the other three students only displayed tired-like behavior one to three times without a movement break versus an average of five times with no movement break. The tired-like behavior clearly decreased after a movement break.

**Students had more stamina during a lesson after a movement break was implemented versus when there was no movement break.**

The students' stamina increased when the students were not as tired. They were able to focus more for longer periods of time and their tired-like behaviors were either not present, or did not arise until further into the lesson. On the teacher's post-survey, she noted that she felt that the movement breaks helped to build her students' stamina and her students were able to focus for a longer duration.

My anecdotal notes also confirmed that their attention span lasted longer. There was much more on-task behavior recorded after a movement break than without a movement break. Off-task behavior occurred during both scenarios, but the frequency was much less after a movement break. One student in particular (student D), was noted for many off-task behaviors,

as previously mentioned. On-task behavior and off-task behavior can be seen in figure 2 below both with and without a movement break being implemented.

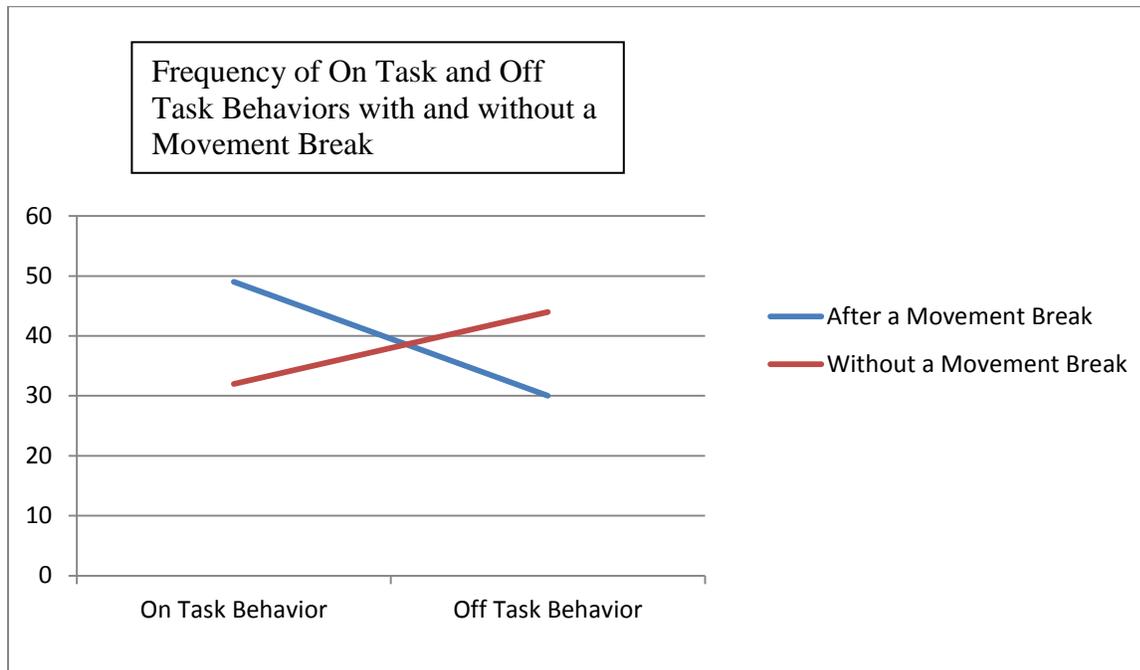


Figure 2 Shows the frequency of on task and off task behavior of the four students observed overall with and without a movement break.

The on-task behaviors increased after a movement break and the frequency of off-task behaviors decreased after a movement break. The four students observed displayed on-task behavior seventeen times more after a movement break. The off-task behavior was displayed fourteen times less after a movement break. The students seemed more focused and engaged with the lesson after a movement break. Student D was the only student who individually had more off-task behaviors after a movement break; however, her disability was a factor in this change.

If a movement break was not implemented, off-task behaviors were seen more frequently. The students were more easily distracted and restless. Student B was seen quite frequently playing with objects at his desk, whether that be a pencil, eraser, or just fiddling around with papers at his seat when a movement break was not implemented. Student B was still observed

playing with objects at his seat after a movement break, but the frequency was much less. It was also easier to redirect this child after a movement break. One verbal prompt would get him to stop fidgeting after a movement break. When there was no movement break, this student sometimes needed several reminders to stay on task.

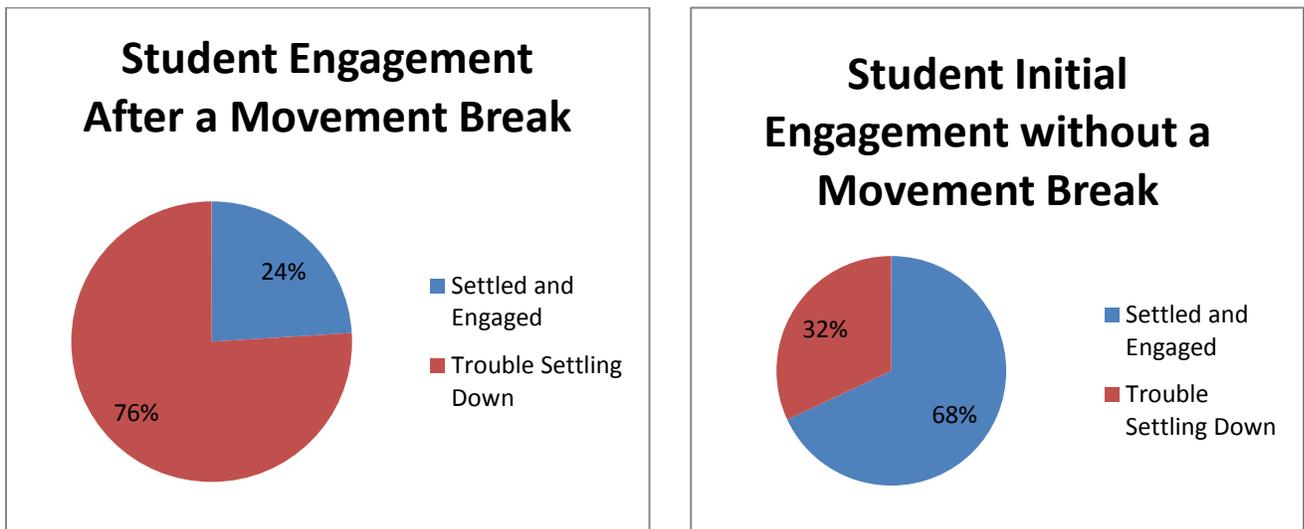
The other two students observed were fairly focused with and without a movement break. However, they were much more focused after a movement break displaying less off-task behaviors and more time on task. Each student's stamina increased after a movement break. Most of their off-task behaviors were not observed until at least twenty to thirty minutes into the lesson versus starting out the lesson off-task as two of these students often did without a movement break.

**Students had a tougher time settling down and focusing on the lesson after a movement break.**

Though students seemed to be more alert and have more stamina after a movement break, I also found that the students had a tougher time settling down and beginning the lesson in a focused manner. The movement breaks, which were Zumba dances that increase their heart rate, were often to upbeat, popular songs. These songs were typically in the three to four minute range. The students really enjoyed engaging in these movement breaks, which increased their excitement and energy level. Because of this, the students were more excited and talkative when they returned to their seats.

During a movement break, many of the students would get quite silly with their dance moves. After a movement break, students often returned to their seats out of breath, giggling, and often a bit talkative. The students shared how much they enjoyed the song or laughed at each other's dance moves. I would observe the students talking and/or whispering to each other. Often

times the simple act of glancing at one another got the students giggling again, about how silly they were being during the movement break. The results of these behaviors for the four students combined after implementing a movement break and when transitioning right into the next lesson with no movement break can be seen below.



**Figure 3** These graphs show the amount of time the four students immediately settled at their seats versus the time they struggled to sit and focus after a movement break and after a transition with no movement break.

Three out of the four students who were closely observed struggled to settle down at the beginning of a lesson after a movement break a majority of the time. All three of these students had very energetic personalities to begin with, so I am sure this was a factor. Overall, the students had trouble settling down after a movement break 76% of the time versus only 32% of the time when a movement break was not implemented before the transition. The time to settle down typically took three to five minutes after a movement break. When there was no movement break, this distractive behavior was not present and the students were able to transition into the next lesson in typically less than a minute.

The teacher also noted her concern for the settling of the students after a movement break in her post-survey. When asked if she believed movement breaks could improve student learning and behavior, she answered “Yes. I have seen problem behaviors decrease after a movement

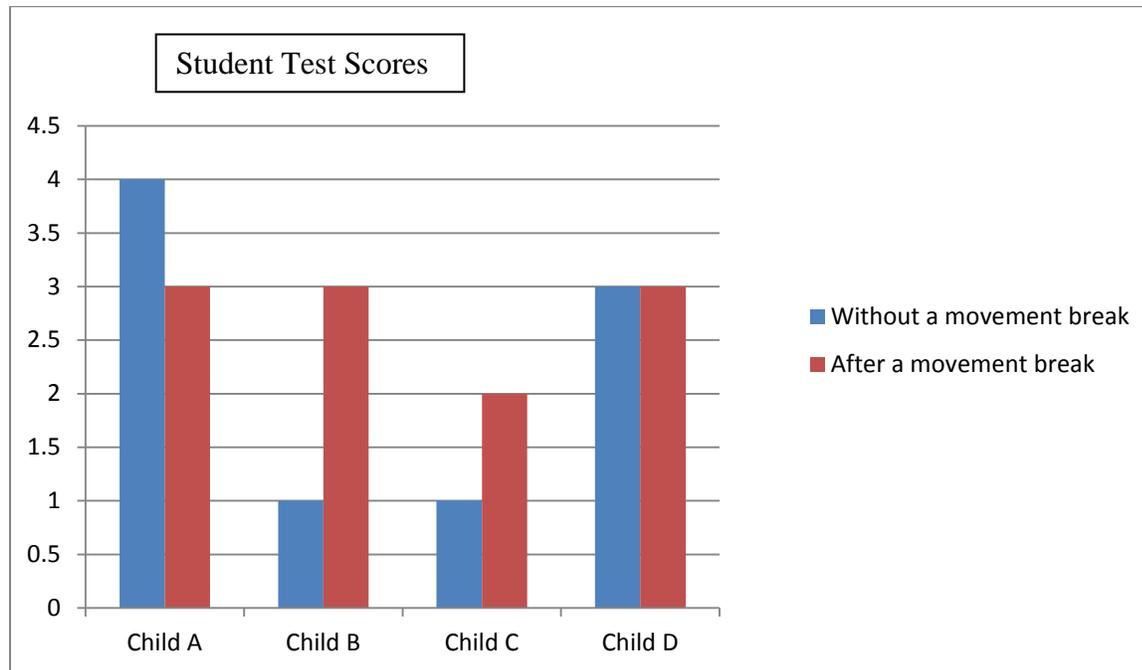
break and I've also seen students' ability to attend/focus for longer periods of time, but my students often struggle with the transition into math after a movement break". When I discussed this response with her in person, she stated that while she enjoyed the movement breaks and she did believe they helped in the end, she was frustrated with her students' ability to transition into the next lesson after a movement break.

**Students' grades sometimes improved after a movement break, but not by much.**

The four student's grades sometimes improved after a movement break versus when there was no movement break, but the numbers are not strong enough to say the movement break helped. I use the word often because this was not always the case. Some lessons were more difficult than others were and there are many other factors that could be attributed to this change. One out of the four students who was randomly chosen (Student D) to be more closely observed and grades recorded was a student with a disability. Another student who was chosen at random (Student C) was sent to RTI and received an Individualized Education Plan during the time research was being conducted. Student A typically performed very well in math and student B was an average student who sometimes struggled to focus and stay on task.

The two topic-tests that were given during this time showed better test scores for most of the students after a movement break was implemented. The first topic-test was given without a movement break and the second topic test was given with a movement break. The first topic was an introduction to fractions and the second topic test was simplifying fractions, which should have been a bit more difficult. Two out of the four students chosen at random achieved a higher test score on the second test, after a movement break, which is only 50% of my sample. However, it is important to remember that my sample size is small. One student actually dropped

a full grade letter on the second topic-test, while another student's score remained the same. The results of the two tests can be seen in figure 3 below.

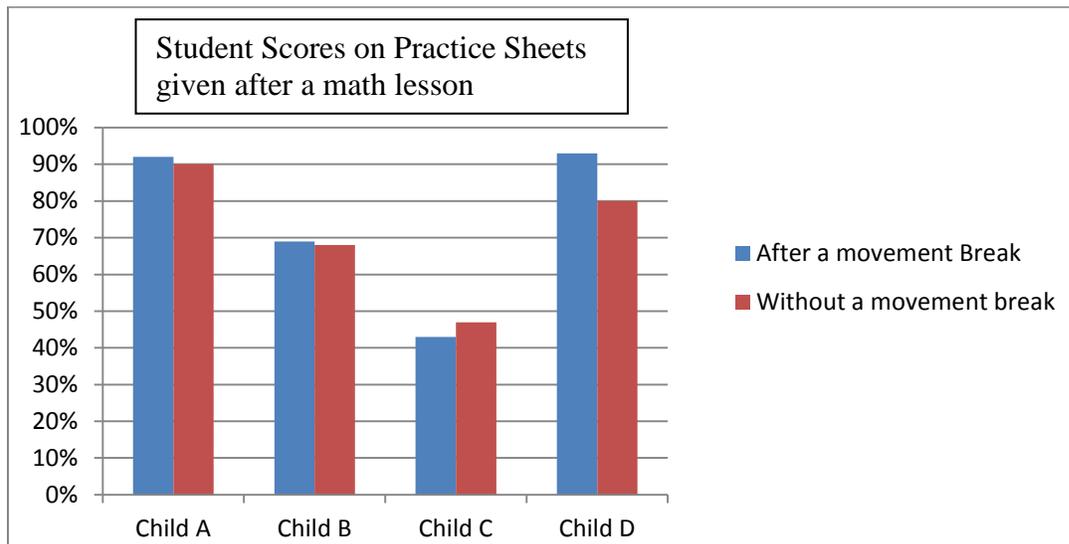


**Figure 4:** This chart shows student test scores for two topic tests. For the first test, no movement break was implemented before the test was administered.

These results show increased test scores for only 50% of the data set after a movement break. The second test should have been more difficult because of the increased skill level. Many other factors can be attributed to this increase in scores, so it is tough to say the increase was simply because of a movement break. Student A is the strongest math student in the data set and this student's score decreased on the second topic-test. Student C received an IEP after the first test was given, so test modifications may have attributed to his increased test score. Since these test results alone were not enough to show anything I had to use more data.

A more reliable source of data for academic achievement was the results of the practice sheets. After each lesson, the students were given a practice sheet out of their workbook that correlates with the lesson taught that day. For each lesson, the first forty-minutes of the lesson

was direct instruction. The last twenty-minutes of the lesson was for practice on the skill set taught. Thirteen out of the twenty-three times the students were observed, a movement break was implemented before the lesson began; the other ten times there was no movement break. The students were simply transitioned from ELA into math. The results of these practice sheet scores can be seen in figure 4.



**Figure 5:** This chart shows the percentage that students achieved a 3 or 4 (meeting or above standards) on the practice sheets given after each lesson with and without a movement break being implemented beforehand.

I based these results off their score on a scale of one through four. A score of one meant not meeting the standard, a two meant working towards the standard, a three meant meeting the standard, and a four meant exceeding the standard. The chart above displays the percentage of scores that each student achieved a three or a four on the practice sheet, demonstrating understanding of the skill set taught. The scores of the practice sheets slightly improved for three out of the four students, but with this small sample size, it is difficult to determine any relationship. In fact, one student received a higher rate of achievement when there was no movement break.

On both the test scores and the practice sheets, there were some increases in scores after a movement break. However, these increases were minimal and in both cases, at least one student defied this finding and actually performed better when there was no movement break.

### **Summary**

I was able to determine four significant findings based on my research question, what impacts do movement breaks have on academic achievement and student learning. The students were less tired, had more stamina, and there was a decrease in off-task behaviors after a movement break. However, it took a longer amount of time for the students to settle after a movement break and there was not a huge change in students' grades. There is much more research to be done to determine the true effects movement breaks has on academic achievement and student behavior.

### **Chapter 5: Conclusions and Recommendations**

The purpose of this study was to determine the effects that GoNoodle movement breaks in the classroom had on student behavior and academic achievement. Movement breaks can be helpful for students after sitting for long periods of instruction. The new CCSS places rigorous demands on both the teachers and the students, so there is limited time to get up and move. Within this school district, fourth-grade students sit for a ninety-minute block of ELA followed by a sixty-minute block of math instruction. Implementing movement breaks using the GoNoodle website can be beneficial for these students. Reilly et al. (2012), point out that “movement increases the heart rate and stimulates brain function, which facilitates a child’s ability to take in information and learn” (p. 63). Reilly et al. also note that when students are inactive for more than twenty minutes, their ability to focus, comprehend, and retain information decreases. The students in this district could greatly benefit from the use of GoNoodle when a movement break is properly implemented at the appropriate time.

#### **Conclusions**

After conducting my research and analyzing my findings, I found a few answers to my research question, how do GoNoodle movement breaks impact academic achievement and student behavior? I found that after a movement break students were less tired. The students also had more stamina after a movement break. Student engagement was increased, but it took them a little bit of time to settle after a movement break. I also found that students’ grades improved slightly, but not always after a movement break. From these findings, I have discovered two conclusions; movement breaks can be beneficial for students after sitting for long periods and students are not being allowed enough time for a movement break.

**Movement breaks can be beneficial for students after sitting for long periods.**

After a movement break, students' tired-like behaviors occurred much less. The students were more alert and focused. The surveys showed that students felt more awake after a movement break. The students also acknowledged that sitting for long periods caused them to feel tired and less focused. McLaren et al. (2011) noted that, "movement and cognitive function are fundamentally related" (p.102). The students were able to recognize the relationship between movement and their own cognitive function during my study. I was also able to observe this relationship between cognitive function and movement first hand.

Students were able to remain focused and on-task for a longer amount of time after a movement break. When there was no movement break, the students' off-task behaviors occurred much sooner and lasted longer. These movement breaks helped to build student stamina. Both the classroom teacher and I were immediately able to see the difference in student stamina with and without a movement break. The classroom teacher noted in her survey how satisfied she was with the increased stamina in her students after a movement break.

**Students are not being allowed enough time for movement breaks.**

Students are not given enough time to move around throughout the school day. With the rigorous demands of the CCSS, teachers are focused on instruction. Often times, students are not even given recess. The classroom teacher made a comment in her survey about how it took the students longer to settle after a movement break. I also noted this in my anecdotal notes. However, the amount of time it took for students to settle was only about three to four minutes on average. In the grand scheme of things, no huge amount of time was lost during any given lesson. Since students' stamina was increased and the students were able to stay focused longer, the movement break still had a positive impact on their overall learning experience. Therefore,

there was a small amount of time lost, but in the end, the students' built-up stamina was more important. I believe the few minutes lost at the beginning are worth it. I also believe classroom management skills could help to decrease this amount of time. It is important that teachers take a few minutes out of their day to get their students up and moving.

I came to two different conclusions based on my findings. However, I believe my conclusions are limited due to my small sample size. My research was restricted to one classroom and only four students were closely observed. In addition, I was not the classroom teacher so some of the factors like the classroom management were out of my control. Overall, I do believe that movement breaks using the tool GoNoodle can have a positive impact on student learning and behavior.

### **Implications for Student Learning**

After discovering some of the impacts that movement breaks using GoNoodle have on academic achievement and student learning, I believe movement breaks can have a positive outcome for student learning as well as their behavior.

With increased stamina and less off-task behavior, these movement breaks can help students learn more. Kercood and Banda (2012) noted that after a movement break, they saw "improvements in standardized test scores, on task behavior, and academic time on task in average functioning school age children" (p. 1). Students will be able to retain more information after a movement break and they will remain on-task much longer, which should result in an increase in student grades.

### **Implications for My Teaching**

Overall, my students' academic achievement and their behavior improved after implementing a movement break using GoNoodle. When I have my own classroom someday, I

will certainly use GoNoodle and other forms of movement breaks in my classroom to increase academic achievement and improve student behavior.

**I need to implement a movement break when I see my students getting tired and unfocused.**

I will be sure to implement a movement break at the appropriate time to maximize the benefits of the movement breaks in my classroom. When I notice students are getting tired, or they are losing their stamina, I can implement a quick movement break on the spot. I will also utilize a movement break using GoNoodle in between long periods of instruction to increase my students' stamina for the next subject and to wake them up and get the blood and oxygen flowing through their bodies again. Jensen (2000) noted that movement and exercise increases blood flow and oxygen to the brain, which will increase the ability to focus and stay on task.

**My classroom management will be essential to the success of movement breaks in my classroom.**

By setting clear expectations about how the students should act during the movement break and how to transition back to a lesson after a movement break, my students' success will increase. These clear expectations will also decrease the transition time that it takes students to settle after a movement break.

I will also be cautious of what videos I play in my classroom using GoNoodle. I found during my study that certain songs got the students super excited, causing more silly and off-task behaviors after a movement break. A quick deep breath in after a movement break while transitioning back to their seats could greatly benefit my students in calming them down and getting them ready to begin the next lesson.

### **Recommendations for Future Research**

More research should be done due to the limitations of my research and the lack of existing research pertaining to movement in the classroom. One suggestion I would make is using a larger sample size to be able to better compare the results of any findings. With a small sample size, I was unable to make any correlations or find any significant differences. I would also suggest conducting the study for more than just a few weeks to see how the movement breaks affect the students over time. Finally, I would suggest using several different movement techniques in the study to see which ones have the greatest benefit on student learning and student behavior in the classroom.

I would also suggest trying to implement the movement breaks at various points during the day to see when the students benefit from the movement breaks the most. It may also be interesting to see how students handle a movement break in the middle of an instructional lesson when the students seem to be getting tired or off-task. In my study, there was not a huge increase in students' grades after a movement break, but I believe this is still possible. McLaren et al. (2011) found that movement breaks increased standardized test scores. Jensen (2000) noted that movement allows students to retain more information for longer periods of time and the information learned is easier remembered when movement is involved. More research should be done to see the added benefits of movement in the classroom on students' behavior and their academic achievement.

### **Final Thoughts**

It is important to remember that every classroom is different, so it is difficult to compare data and apply it to every classroom. Every group of students is different, and year to year, each classroom of students will change. It is important for each teacher to modify their movement

breaks, just as they would a lesson plan year to year depending on their group of students. Movement breaks may not be the right technique for every teacher or every student, so it is important for teachers to know their students, and to know what strategies each teacher is comfortable with in their own classroom. GoNoodle may be a great tool to use if the teacher is comfortable with technology and if the teacher believes their students can handle the movement breaks provided on the GoNoodle website.

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Appendix A  
Student Survey

Name

Date

Directions: Answer each question and explain why to the best of your ability.

1. What is your favorite subject?
2. What is your worst favorite subject?
3. What makes it hard to pay attention in school?
4. Is it hard to sit for long periods of time?
5. What makes it easiest to learn?
6. Do you think movement breaks help you learn?
7. When do you think a movement break would help you learn the best?
8. Do you enjoy (circle as many that apply):
  - a. Movement Breaks
  - b. Physical Education (P.E.)
  - c. Recess
  - d. Free Choice
9. What is your favorite movement break activity?

Appendix B  
Teacher Survey

Dear Teachers,

I hope that you will take the time to assist me in my research by taking a survey about movement breaks in the classroom. I am interested to see if and how movement is utilized in your classroom. I am also interested in how movement activities seem to engage students during instruction. I look forward to reading your responses! Please answer each question and explain. Thank you for your time and help.

Sincerely,

Brittany Lotta  
Teaching Assistant

Do you incorporate movement into your lessons to engage students? If yes, when and how?

Do you incorporate movement breaks into your classroom? If yes, when and how?

If you incorporate movement into your classroom, is it routinely and repeated daily at the same time?

Do you believe movement can be integrated easily into the classroom?

Do you believe movement breaks can improve student behavior and academic achievement? If yes, have you seen it in your classroom?

Do you feel comfortable using movement breaks in the classroom? Do you feel like you have been provided with the right tools and/or training?

Appendix C  
Template for Anecdotal Notes

Student	Observation of Behavior	Observation of Attentiveness/Engagement
Student A		
Student B		
Student C		
Student D		

