“I don’t have to raise my hand - someone else will”
What Motivates Students to Participate?

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**Description of Teaching Context**

As a Professional Development School intern through Penn State University, I taught in a third grade self-contained classroom at Gray's Woods Elementary School in the State College Area School District during the 2009-2010 school year. My class was made up of twenty-five third grade students. All twenty-five students were Caucasian. Each student in my classroom was an individual and had their own unique strengths and weaknesses. The class consisted of eleven boys and fourteen girls. All of the students in class had at least one friend. Six students in class had been chosen to participate in a communication skills group, either to serve as a role model or to improve their own skills. In the communication skills group, students worked with our school guidance counselor to develop skills such as leadership, communication, and self confidence. A majority of the students in the class came from a middle to upper class socioeconomic background; however, one student in class received free/reduced lunch. After losing her mother to cancer in 2008, one of our students had a one-parent home and received counseling. Three students in the class had divorced parents, with one other student’s parents currently going through a divorce.

Academically, a majority of the class was proficient in reading, writing, and math. One student in class qualified for Title 1 for reading, and one received learning support for reading and writing. Another student received occupational therapy once a week, and one student was receiving speech therapy. All students were capable of completing math work independently, with a group of about 5 students that needed direct teacher support when working with new concepts. In
math, four students received enrichment. Four students were considered high achieving in math, seven achieved just above the average level, nine were average achievers, and five were low achieving math students.

In the State College Area School District, math was taught through *Investigations in Numbers, Data and Space*. Through the Investigations curriculum, students were taught mathematical concepts through first forming a strong conceptual foundation. The skills taught through the curriculum were then based off of their conceptual understanding. In my third grade class, students had units on addition, subtraction, surveys and line plots, multiplication, division, area, perimeter and fractions. The Investigations curriculum was supplemented with numerous other materials. One was called “Everyday Counts Calendar Math.” This program utilizes the calendar to teach various mathematical topics to students. In my third grade room, we had covered patterns, addition, multiplication, graphing, time, area, perimeter, fractions, and liquid measurement. Concepts covered are not always aligned with our Investigations math curriculum; therefore, student achievement in calendar math topics differs from their classroom math grades. In calendar math, seven students were considered high achieving, fifteen were considered average, and three were considered below average. In my class, calendar math lessons average about thirteen and a half minutes long, occurred three times per week and were filled with content. During each calendar math lesson, I asked on average 2 questions per minute, making an average of 26-27 questions per lesson.

For the purpose of my inquiry, I highlighted four of my third grade students. Student A had many friends but was typically a quiet student. He did not often
participate, although he was an average calendar math thinker. Student A had a baseline average of participating 1.5 times. Student B was also a reserved student who did not typically participate. She was an average calendar math thinker and had a baseline average of participating .5 times. Student C was a very bright student who was an average calendar math thinker. She was an average participator in class with a baseline average of 4. Student D was a very outgoing student who often participated in class. He was a high achieving calendar math thinker, and had a baseline participation average of 5.5. (See Appendix A for full Inquiry Brief)

**Wonderings and Questions**

**Main Wondering**

*How can I encourage each student in my third grade class to participate in calendar math?*

The main wondering for my inquiry was focused on the inconsistent participation levels I was noticing in my classroom during calendar math instruction. During some lessons, participation was high, and during others only two or three hands were raised for every question, even questions that I felt each student should be able to answer (such as basic ones regarding color or shape). I was wondering what I could do as a teacher to encourage my students to participate more consistently during calendar math and to feel comfortable doing so.

**Sub-wonderings**

- How will individual students differ in their amount of participation during calendar math?
- How does student participation relate to their academic achievement?
Data Collection

I collected data in numerous ways throughout my inquiry. I started by taking baseline participation data through videotaped observation of my class. Calendar math lessons were video taped by my mentor or Professional Development Associate/supervisor. I later watched these videos and used a checklist containing the names of each student in class to tally each time the students raised their hands during discussion. This gave me an idea of who was participating and how often during each lesson. (See Appendix F-J for raw data)

Another way I collected data was to give each student in my class a paper survey asking them questions about their feelings about participation during math discussions. Questions on this survey included:

- What does participation mean to you?
- On a scale of 1-5, how much do you like to participate in math block?
- Why do you like to or don’t you like to participate?
- How does it feel when you do participate?
- Has their ever been a time in math block when you thought you knew the answer to a math question but didn’t raise your hand? Why? (For an example of this survey, see Appendix K).

I used the results of this survey as baseline data and compared it to the results of the same survey given to the same students at the end of my inquiry. I also used this survey to help me to select the students (A,B,C, and D) to use for an interview. I
chose these students because they gave detailed responses to the questions on the survey, and had a variety of beliefs about participation.

After selecting the students, I interviewed each of the four students individually two times throughout my inquiry. The first interview included the following questions:

- What do you think makes you want to participate in class?
- What are some things that might make you want to participate?
- What are some things that make you not want to participate?
- Do you think you participate more in small group or large group discussions? Why?
- Do you think you participate more in the morning or afternoon? Why?
- Are there certain subjects that you think you participate in more? Why?

I used their responses as a baseline and repeated the interviews after implementing strategies. The second interview included the following questions:

- What do you think about “it’s cool”?
- Do you think participation rewards are fair? Why?
- Should I use them in my class next year?

Halfway through my inquiry, I decided that it was important to find out the calendar math achievement levels of all of the students in class, so that I could look at how that effects, or does not effect, their participation. I created a quick assessment on the concepts we had recently covered in calendar math, such as probability and liquid measurement, and grouped the students into high, average,
and below average achievers based on their scores. (For an example of the assessment, see Appendix B)

I then began to implement my strategies in hopes of increasing participation. The first strategy I tried during calendar math was increasing my wait time. I believed that with more time to formulate an answer, more students would participate. After every question I asked my class, I waited a minimum of 15 seconds before calling on someone for the answer. I used this strategy for week one, and then returned to my normal wait time of 3-6 seconds.

My second strategy was to give away participation rewards. I believed that with an immediate reward, students would be more motivated to participate. After each calendar math lesson, I gave away a free homework pass to the one or two students that participated the most. This was determined by conferencing with my mentor and the class. I did this for week two. (To see this reward, see Appendix C)

The next strategy that I tried was implementing more community building into the classroom. I felt that with a strong community, my class would be comfortable participating. I did this by planning activities for students to give each other put ups and compliments as well as by establishing “it’s cool.” With “it’s cool” each time someone in our class makes a mistake (teachers included) the class says “it’s cool” while smiling and putting up two peace signs with their fingers. I encouraged the use of “it’s cool” throughout week three, but the students continued to use it without my encouragement.

The last strategy that I implemented was moving calendar math from the morning to the afternoon. I was unsure how different times of the day effect my
student’s participation, so by moving my lesson around, I was curious to see how and if their participation would change. I did this for week four.

**Data Analysis**

To analyze my data, I first sorted the lesson data by the strategy I was implementing when teaching it. I was hoping to see my student’s participation levels increase from the baseline with each strategy that I implemented. I was curious to see which strategies worked most efficiently to increase participation in which students, as well as how comfortable students were while participating in calendar math.

I looked at each of the four students’ participation in each set of data, and found the participation averages for the strategy. I then found the class average for each strategy. I was able to compare the class participation average, with individual student participation averages for each strategy. I was also able to compare how the students’ calendar math achievement levels related to their level of participation.

With regard to the second written surveys that I administered, I was able to compare each student’s answers with those from the first surveys and record any change in thinking in terms of participation. By watching each student videotaped interview, I was able to explore further what my four selected students thought about participation in class.

**Explanation of Findings**

After a thorough analysis of my data, I expected to find several patterns that would help me answer my wonderings about student participation in calendar
I found several patterns that led me to make three specific claims that can be strongly supported by evidence.

**Claim #1: Increasing teacher wait time during questioning, distributing random participation rewards, implementing community building, and teaching calendar math in the afternoon are all effective strategies to generally increase class participation.**

After my analysis, it was clear that the class average participation level was higher when implementing all four strategies than during the baseline data collection. Although each strategy was effective, they all differed in their degree of effectiveness.

The overall class participation average during the wait time strategy increased by about seven incidences, and 96% of students increased their participation levels. (see Appendix G for wait time data) This strategy was the one that I observed to be the most effective while watching my lesson videos. The longer that I waited after asking a question, the more hands would go up into the air. The class average during this strategy was 10.18 incidences, and was by far the highest amount of participation that my mentor and I have seen from our class this year. I believe that this strategy was effective because it gave all students enough time to consider the answer to each question. I also believe that since I did not call on someone right away, those students who typically sit back and let others do the work for them were forced to participate because they saw that I was waiting.

When I distributed random participation rewards, my class participation average increased by about five incidences, to 8.18. During this strategy, my data
revealed that 96% of my students increased their participation averages when compared to their baseline averages. (see Appendix H for participation reward data)

To decide which student received the reward after these lessons, I consulted with my mentor, who was observing, about which students had participated the most. The class was excited about the distribution of the rewards, and my four interviewed students all reported liking the idea and thinking that it was a fair way to recognize those who participated. In fact, student D suggested that we give away 8-10 participation rewards each day! I believe that this strategy was effective because after students noticed that they could be directly rewarded for their participation, they were more motivated to participate instead of zoning out or letting other students answer all the questions.

After implementing community building in my classroom, the class participation average increased by about two incidences, and 68% of my students increased their participation averages. (see Appendix I for community building data) I believe that this strategy was effective because building community makes students feel safe and valued in their classroom, and therefore encourages them to take risks. After building community, more of my students felt comfortable enough taking risks by answering questions they may not have before during calendar math lessons. By implementing “it’s cool” in my classroom, I made making mistakes more acceptable and fun in the classroom. All four of my selected students reported liking the “it’s cool” strategy, and another student wrote on her second survey that, “before the it’s cool thing I’d be embarrassed if I didn’t get the answer right.” (see
Appendix K for example of student surveys) This proves that this strategy was successful in encouraging participation in my classroom.

I believed that changing calendar math to the afternoon would decrease student participation because, I’d observed students being more attentive in the morning, and more easily distracted after lunch throughout the year. Contrary to my beliefs, teaching calendar math lessons in the afternoon increased my class’s average participation level increased by three incidences, and 84% of students in my class increased their participation average. (see Appendix J for afternoon data) I was surprised by this, and believe that it may be due to other variables such as previous strategies implemented or increased teacher enthusiasm.

Since during each strategy, my class’s participation average increased from the baseline data, and a majority of the students increased their participation averages, I can make the evidence based claim that each strategy encouraged my students to participate. (see Appendix E for graph of class averages)

**Claim #2: The effectiveness of each strategy differs in individual students during calendar math.**

Before my inquiry began, it was evident that individual students differed in their participation levels. I observed students who paid attention and participated often as well as students who paid attention and did not participate, as well as students who were often off task and therefore, not participating. This led directly to my sub-wondering of how individual students differ in their participation levels.

I found that each strategy has a different effect on each student in class. Student A had a baseline average of 1.5 incidences, an average of 4 incidences
during the wait time strategy, an average of 5.3 incidences during the participation reward, an average of 3 incidences during community building, and an average of 5 incidences when calendar was in the afternoon. I found that Student B had a baseline average of .5 incidences, an average of 2 incidences during the wait time strategy, an average of .5 incidences during the participation reward, an average of 2 incidences during community building, and an average of 1 incidence when calendar math was changed to the afternoon. Student C had a baseline average of 4 incidences, an average of 15 incidences during the wait time strategy, an average of 8 incidences during the participation rewards, an average of 7 incidences during community building, and an average of 6.5 when calendar math was changed to the afternoon. Student D had a baseline average of 5.5 incidences. During the wait time strategy his average was 6 incidences, during the participation rewards his average was 17.6 incidences, with the community building strategy, his average was 6 incidences, and when calendar math was in the afternoon his average was 3 incidences (for graphs displaying the four students calendar math participation levels, see Appendix D).

When I implemented the wait time strategy, I noticed that while some students increased their participation level by 17 incidences, others did only by .5 or 1 incidence, and one student even decreased. I noticed that the long periods of wait time shut some students off to the lesson and caused their attention to drift. I saw this even in one of our greatest participators, whose average increased only by .5 incidences during the implementation of this strategy. I also noticed that this strategy encouraged some students to flourish, with plenty of time to think about
the answer. A majority of the students increased their averages by eight or more incidences. The range of increase for this strategy was from -0.25 to +17 incidences. (see Appendix G for wait time data)

With random participation rewards, I found the same thing. Some of my students did not respond at all, or increased their participation by only 1 or 2 incidences, while others increased their levels by up to 12 incidences. I believe that some students did not remember the rewards and some students had the idea fresh in their minds. I also think that some students care more than others about receiving a free homework pass. This strategy had a smaller range of increase, from only 0 to +12 incidences. (see Appendix H for participation reward data)

I found similar results when I implemented community building into my classroom. Several students participation averages actually decreased this week, while a smaller majority increased their averages by far fewer than previous strategies. The range of increase for this strategy was -3 to 8 incidences. I believe that this is because the effects of the community building I implemented in my classroom were delayed, and did not take full effect on my student’s comfort level until later weeks. (see Appendix I for community building data)

With calendar math lessons in the afternoon, I found the same thing. Four students had a decrease in their participation averages, while all of the rest increased. The range of increase for this strategy was -2.5 to 9 incidences. I feel that the participation averages for this week were slightly higher due to the delayed effects of community building and possibly greater teacher enthusiasm. Based on my observations, I believe that participation is typically lower in the afternoon, but
because of the delayed effects of the week before’s community building or my attention to enthusiasm, participation levels were increased from the baseline. (see Appendix J for afternoon lesson data)

I also found that the strategy that worked best to encourage participation varied from student to student. The wait time strategy was most effective strategy for the majority of my students, 18 out of 25 students or 72%, while it was the least effective strategy for 2 out of 25 students or 8%. The participation reward was the most effective strategy for 7 out of 25 students or 28% and least effective for 2 out of 25 students or 8%. Implementing community building was most effective for 1 out of 25 students or 4% and least effective for 14 out of 25 students, or 56%. This was to my surprise, the strategy that was least effective for most students. Again, I believe that this is due to the delayed effects of community building. Changing calendar math to the afternoon was most effective for 3 out of 25 students in my classroom or 12% and least effective for 9 out of 25 students in my class or 36%. (see Appendix F for raw data)

This great variation in data shows the extreme difference in effectiveness that each of my strategies had in increasing participation. It would be accurate, based on my data, for me to claim individual students differ in their levels of participation, and each strategy differs in its effectiveness in encouraging each student.

Claim #3: Although individual students differ in their levels of participation during calendar math, this has no relation to their calendar math achievement level.
My sub-wondering about how individual students will differ in their participation levels led me to determine how well each student understood calendar math concepts and how that relates to their levels of participation. By creating a calendar math assessment, I was able to see the achievement level of each of my students and group them accordingly. (See Appendix B for a sample calendar math assessment)

After analyzing my data, I found the following class results:

- one student is a low achiever, but high participator
- one student is a low achiever, but an average participator
- one student is both a low achiever and participator
- three students are average achievers and high participators
- seven are both average achievers and participators
- five are average achievers and low participators
- three are high achievers and average participators
- four are high achievers and high participators.

(see Appendix F for data)

Although four students with the greatest amount of participation in my class are high achieving calendar math students, three of them are average achievers and one of them is a low achieving student. I also found that five of my students who participate the least are average achieving calendar math students and only one student is both a low achieving calendar math student and one of our least participators. This data contradicts the idea that participation is related to
achievement, and supports my claim that academic ability has no relation to class participation levels in calendar math. (see Appendix F for baseline data)

**Reflections and Future Practice**

When I originally planned my inquiry, I intended to address several other wonderings and sub-wonderings, but found afterward that I did not have sufficient evidence to make claims about them. With more time, I would have liked to explore these wonderings further, and collect enough data to make a claim.

One wondering I was unable to address was how individual students differ in their comfort level during calendar math. Some of my data touched on this, such as interview questions that I asked, but I did not feel that I had strong enough evidence to make a claim. I believe that with further research, I would find that students who are more comfortable are more likely to participate.

A second wondering that I was unable to make a claim about was how peer relationships and teacher behavior effect participation. I believe that I have some evidence to suggest that positive peer behaviors, such as “it’s cool” increase student participation, but not enough to make a valid claim. I also feel that teacher behavior has a strong impact on student participation. With more time, I would have liked to research the way that teacher enthusiasm effects student’s participation. I believe that enthusiastic teachers increase student participation.

Another wondering that I feel was not supported strongly enough with my data was how class schedule effects participation. Although I found that switching calendar math to the afternoon increased participation in my class, I feel that many other variables may have been involved. I strongly feel that where the lesson is in
relation to recess has an effect, as well as how close to the end of the day the lesson is taught. I also believe that in my specific inquiry, the increase in participation was due to the delayed effects of community building. The use of “it’s cool” did not really kick in until several days after it was introduced, and has been used more and more since. During the implementation of this strategy, I was also working towards a goal of increasing my teacher enthusiasm, which I believe may also have had an effect on student participation. With more time, I would have liked to explore this as an additional strategy.

The last wondering I had that was not addressed was what types of class discussions foster participation. This was somewhat addressed in my inquiry with my student interviews, but I did not feel that I had enough data to make a valid claim. I believe that this also will vary with individual students, and different types of discussions will foster participation in different students. I am also curious to see how teacher questioning effects student discussion and their participation.

What I learned from this inquiry will stay with me throughout my career as an educator. I will always have a classroom full of unique students, and specific strategies will work differently for all of them. What works best for one student may have the opposite effect on another. I saw this clearly with my inquiry with the individual differences each strategy had on my students.

This inquiry clearly displayed the benefits and drawbacks of wait time. With too much wait time, students may be turned off, but with too little, some students may not have enough time to think of an answer. The most effective wait time to use is somewhere in the middle, where students who think quickly can still wait
patiently for other students to think of the answer as well. I will take this knowledge with me throughout my career as an educator, since wait time is a tool used in every grade across the board.

From this inquiry, I will also take with me the use of the “it’s cool” strategy. Since so many of my students reported enjoying it, and its use became so common in the classroom, I feel that it would be a positive addition to any classroom day. Since students say “it’s cool” to not only each other, but the teacher as well, students can see that it is okay to make mistakes, and that even after making one, you can move forward. I feel that by using this strategy, students are reminded immediately after making mistakes that it is okay, and that mistakes are made by all.

Participation is essential in the classroom, and teachers would find informal assessment much more difficult without it, as well as basic classroom discussions. By encouraging my students to participate, I am helping them to take responsibility for their learning as well as remain actively engaged in the lesson and material. By taking risks in the classroom participating, my students will grow as learners and as people, which is the most important goal I have for them.
Appendix A

Inquiry Brief

Context

As a Professional Development Intern through Penn State University, I have worked in a third grade self-contained classroom at Gray's Woods Elementary School in the State College Area School District during the 2009-2010 school year. My class is made up of twenty-five third grade students. All twenty-five students are Caucasian, but each student is an individual and has their own unique strengths and weaknesses. The class consists of eleven boys and fourteen girls. All of the students in class have at least one friend. Six students in class have been chosen to participate in a communication skills group, either to serve as a role model or to improve their own skills. A majority of the students in class come from a middle to upper class socioeconomic background; however, one student in class receives free/reduced lunch. After losing her mother to cancer last year, one of our students has a one-parent home and receives counseling. Two students in class have divorced parents, with one other student's parents are currently going through a divorce.

Academically, a majority of the class is proficient in reading, writing, and math. One student in class is Title 1 for reading, and one receives learning support for reading and writing. Another student receives occupational therapy once a week, and one student is receiving speech therapy. Five students in class receive enrichment in math. All students are capable of completing math work independently, with a group of about 5 students needing direct teacher support when working with new concepts. In math, four students receive enrichment. Four students are considered high achieving in math, seven achieve just above the average level, nine are average achievers, and five are low achieving math students.

In the State College Area School District, math is taught through *Investigations in Numbers, Data and Space*. Through the Investigations curriculum, students are taught mathematical concepts through first forming a strong conceptual foundation. The skills taught through the curriculum are then based off of their conceptual understanding. In my third grade class, students have had units on addition, subtraction, surveys and line plots, multiplication, and division. They will also be instructed in area, perimeter and fractions. The Investigations curriculum is supplemented with numerous other materials. One is called “Everyday Counts Calendar Math.” This program utilizes the calendar to teach various mathematical topics to students. In my third grade room, we have covered patterns, addition, multiplication, graphing, time, area, perimeter, fractions, and liquid measurement. In my class, calendar math lessons are typically about fifteen minutes long, occur only about three times per week, but are filled with content.

Rationale

My interest in this topic was generated through observing my class throughout the day and noticing strange patterns in their level of participation.
During some lessons, almost everyone in class would participate, and during some lessons it was a struggle to get even a few students to participate in discussion. I became curious about why this happens in a classroom, and what I as a teacher can do to always have a high level of participation. I feel that participation is important because it is necessary for a discussion. In discussions, I feel that genuine learning can occur as well as valuable assessment that a teacher can use as a tool to drive instruction. I also feel that participation helps to keep students engaged and accountable for their own learning. I have found through observation that my class varies the most in participation level during calendar math, which usually takes place first thing in the morning. I expect to discover that the kinds of activities and time of day the lesson takes place will affect student participation. I also expect to discover that by implementing more community building and the acceptance of mistakes, I can increase participation in my class's calendar math sessions.

**Wonderings**

How can I encourage each student in my third grade class to participate in calendar math?

- How will individual students differ in their amount of participation during calendar math?
- How will individual students differ in their comfort level with participation in calendar math?
- How does peer behavior affect participation during calendar math?
- How does teacher behavior affect participation during calendar math?
- How does the class schedule affect participation in calendar math?
- What types of math discussions foster participation in calendar math?

**Data Collection**

I will be collecting data in numerous ways throughout my inquiry. I will start by taking baseline participation data through observation of my class. My mentor, my PDA, or myself will take this data. Data will be collected on a checklist containing the names of each student in class. A tally mark will be given to a student each time he or she raises their hand during discussion. This will give me an idea of who is participating and how often during a lesson.

I will also give each student in my class a paper survey asking them questions about their feelings about math and participation during math discussions. Questions on this survey will include: What does participation mean to you? On a scale of 1-5, how much do you like to participate in math block? Why do you like to or don’t you like to participate? How does it feel when you do participate? Has their ever been a time in math block when you thought you knew the answer to a math question but didn’t raise your hand? Why? I will use the results of this survey as a baseline, comparing it to the results of the same survey given to my whole class at the end of my inquiry. I will also use this survey to help me to select students to use for an interview.

I will be interviewing four students two times throughout my inquiry. I will be selecting them based on their answers on the paper survey given in class. These students will be asked questions like: What do you think makes you want to
participate in class? What are some things that might make you want to participate? What are some things that make you not want to participate? Do you think you participate more in small group or large group discussions? Why? Do you think you participate more in the morning or afternoon? Why? Are their certain subjects that you think you participate in more? Why? I will use this information as a baseline and to analyze the results of my inquiry.

I will also be using video to analyze my inquiry. I will be looking at comparisons of videos taken before implementing strategies, and comparing them to videos taken after. The focus of these videos will be on my class’s participation level during calendar math.

**Timeline**

Week One: February 8\textsuperscript{th}, 2010
- Create and administer surveys to all students in class, select four students to interview and complete interview.
- Complete and submit annotated bibliography and brief

Week Two: February 15\textsuperscript{th}, 2010
- Continue to take observations of participation during calendar math (2 days)

Week Three: February 22\textsuperscript{nd}, 2010
- Submit revised brief and annotated bibliography
- Implement a minimum of 15 second wait time during calendar math questioning.
- Start analyzing data

Week Four: March 1\textsuperscript{st}, 2010
- Implement random participation reward after each calendar math session to one student.
- Continue to take data collection of participation during calendar math (3 days)
- Continue to analyze data

SPRING BREAK

Week Five: March 15\textsuperscript{th}, 2010
- Implement community building into morning meeting three days this week starting Monday. (Each meeting will have a sharing and group activity TBD)
- Implement “it’s cool” strategy. (Every time a mistake is made in class, students should respond by saying “it’s cool” with a hand gesture)
- Continue to take observations of participation during calendar math (3 days)
- Continue to analyze data
Week Six: March 22\textsuperscript{nd}, 2010
- Change calendar math to the afternoon (3 days)
- Continue to take observations of participation during calendar math (3 days)
- Continue to analyze data

Week Seven: March 29\textsuperscript{th}, 2010
- Administer surveys to whole class
- Complete one on one interviews with the same four students.
- Analyze remainder of data

Week Eight: April 5\textsuperscript{th}, 2010
- Work on inquiry draft

Week Nine: April 12\textsuperscript{th}, 2010
- Inquiry draft completed and submitted

Week Ten: April 19\textsuperscript{th}, 2010
- Make corrections to draft

Week Eleven: April 26\textsuperscript{th}, 2010
- Final draft submitted by May 2\textsuperscript{nd}

Week Twelve: May 3\textsuperscript{rd}, 2010
- Inquiry Conference May 8\textsuperscript{th}

\textbf{Annotated Bibliography}


This article is about a study that looked at how students of different academic levels are affected by different teaching styles. The researchers looked at several different classrooms and six different teaching methods. They then looked at the involvement of different students during each. The teaching methods looked at included lecture, classroom discourse, seatwork, group work, audio-visual, and procedures. The results of the study showed that students tended to be off task the most during seatwork, and that classroom discourse had a uniformly high level of student involvement across all different learner types and student levels of achievement. The study concluded that overall, different students benefit differently from different teaching methods. From this article, my ideas about the importance of classroom discourse and participation are correct. Learners do benefit from discussion, and should therefore be encouraged to participate.

This book is a guide to implementing discipline strategies in the classroom. The book is well organized to assist a teacher looking for new ideas to try. A chapter in this book, entitled “Teaching Strategies and Classroom Setup” gave me useful insights for my inquiry. The chapter, as well as the book as a whole, stress how important it is for struggling students to always be encouraged. The book also gives examples of the kinds of lessons the authors have found to be motivating to students. Examples included using popular music related to content and asking the right kinds of questions. The chapter also gives tips to help encourage a positive attitude in students when it comes to learning.

These ideas and suggestions will help me with my inquiry in many ways. It reinforces my belief of how important encouragement is for students, especially ones who may be struggling. I also think the ideas for motivation will be helpful, since I believe motivation will encourage participation. I am also very interested in how asking different kinds of questions can effect participation, so that section is especially important to my inquiry. I hope that the information on encouraging a positive attitude will help to address the students in my room who do not participate because they feel that what we are doing is boring.


This is a book created to guide teachers through the challenging first six weeks of school while creating an effective classroom with a strong sense of community. The text emphasizes the importance of community building, and provides an outline of what a possible day might look like throughout the first six weeks for multiple grade levels. It comes complete with time lengths and descriptions of activities. I will use this book for my inquiry to reinforce my beliefs about the importance of creating a community. The book will also be valuable to me because of its descriptions of creative community building games and activities that I can plan for my class.


This is an article about the importance of student engagement and aspects of the classroom that foster engagement. The authors suggest that effective learning takes place when students take responsibility for their own learning and are
intrinsically motivated to learn. The article also stresses how essential the relationship between the teacher and the student is, including the kind of environment created by the teacher in the classroom. The information provided in this article will help me with my inquiry by providing me with insights into what makes students engaged in learning, and how I can engage them genuinely. I believe that in order to participate, students must first be actively engaged. The article also describes what the classroom environment should be like to foster engagement, which will help me as I implement strategies to help my students.


This paper describes a model that the author calls “The Caring Classroom.” The model is designed to create and maintain a strong classroom community in the elementary classroom. He stresses that community building should start at the beginning of the year, but should continue throughout the year. He emphasizes the importance of class choice and trust between all members of the classroom. He argues that with a strong classroom community, student learning can take place without reservation. This article confirms my beliefs about the benefits of community building. I feel that once I have reinforced my own classroom community, my students will feel that they are in a safe place to learn.


This is an article about a study done on fourth grade students during whole group instruction. The study looked at participation during traditional teacher/student question/answer hand raising teaching methods and compared it to participation and student learning during instruction with student response cards. The author describes student response cards as a whiteboard for each individual student to write answers on and hold up for the teacher to see. The students reported liking the student response cards better, and performed better on quizzes after sessions using student response cards. From this article I now have a valuable strategy that I can try throughout my inquiry. By allowing students to write their answer and participate that way instead of verbally, I may increase participation and therefore student learning.


This website is an overview of the teaching strategy called “Power Teaching” or “Whole Brain Teaching.” The website gives an overview of the basics of power
teaching as well as examples of specific classroom activities. The site also contains a section for videos and free downloads, but neither page is completed. The site also contains recent news about power teaching as well as information about seminars.

I plan to use this site for my inquiry because of a particular power teaching strategy that I believe will help to increase participation in my classroom. The strategy is called “It’s Cool” and the site features a section describing its application in the classroom. When using “It’s Cool” students respond to another student who has given an incorrect answer by saying “it’s cool” paired with a motion. I feel that this strategy will encourage mistake making in the classroom, and therefore increase participation.

Stahl, Candy. Personal interview. 3 Feb. 2010.

Candy Stahl is a second grade veteran teacher at Gray’s Woods Elementary School. I chose to interview her because I believe that she may have some insight and advice about participation in the classroom and how to encourage it. From interviewing Candy, I learned about the differences between the primary and intermediate grades in participation. We discussed what participation looks like in her classroom and the kinds of things she does that motivate her students to participate. Candy stressed how important it is to build a strong community and encourage mistakes in order to create a safe environment. Candy also shared with me her strategy of calling on students even when their hands aren’t raised to see what they are thinking. From talking with Candy, I gained valuable ideas about what I can implement in my classroom to encourage participation.


This website quickly summarizes the benefits of community building, then gives several great ideas of community building games that can be implemented in the classroom. One of my favorites from the site is called “Proverbs,” in which pairs of students are issued a child friendly proverb on an index card and challenged to act it out for the class. I will use this site for my inquiry to browse ideas for games to implement into my class schedule to build our community.


This book is mainly about implementing a class meeting into the day to improve the classroom environment. The book contains not only information about what a classroom meeting is and how it should look, but also gives specific examples of classroom meetings in various grades. A chapter of this book is called “How to
Encourage and Manage Participation.” This chapter discusses several teaching methods that encourage participation such as brainstorming, small group discussions, and partner chats. I will use this in my inquiry to give me ideas of methods to try with my class to encourage participation. Since the strategies are clearly explained, I feel that I could be successful implementing each one into daily instruction.
Appendix B

Calendar Math Assessment

Name_____________________________          Date________________________

1. How many **ounces** are in ONE **cup**?

2. How many **cups** are in ONE **pint**?

3. How many **pints** are in ONE **quart**?

4. Would you weigh your desk in **ounces** or **pounds**?

5. If you flip a coin, under NORMAL conditions, can you predict whether it will land on heads or tails? **WHY** or **WHY NOT**?

6. If Miss McCarty leaves for the mall at 4:30 and arrives home **three** hours later, what time will she arrive home?

7. If Miss Gambe goes to Panera at 6:10 and stays for **35 minutes** what time does she leave Panera?
Congratulations!

Your participation has earned you a free homework pass! Present this award in place of one night’s homework.

Name: ________________________________
Appendix D

Graph Displaying the Four Selected Students Participation Levels for Each Strategy

1 stands for the baseline
2 stands for the wait time strategy
3 stands for the participation reward strategy
4 stands for the community building strategy
5 stands for the changing calendar math to afternoon strategy
Appendix E

Graph Displaying the Class Averages for Each Strategy

![Graph showing class averages for different strategies](image-url)
Appendix F

Baseline Data

*Letters along the left of the chart categorize students by their calendar math achievement; letters along the right categorize students by their level of participation (H=high, A=average, L=low) The list at the bottom shows how many students fit into each combination of achievements.
## Appendix G

### Wait Time Data

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**TOTAL CLASS AVERAGE: 10.18**
## Appendix H

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Class average: 8.18
## Appendix I

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Appendix J

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Class Average: 5.98
Appendix K

Example of Student Survey

Name:

1. What do you think it means to participate?

2. On a scale of 1-5, how much do you like to participate in math block?

   1             2             3             4             5
   (I don’t like to)                     (I love to!)

3. Why do you like to or why don’t you like to?

4. What does it feel like when you do participate during math block?

5. Have you ever thought you’ve known the answer to a math problem but not raised your hand to answer? Why?