

Should I Raise My Hand?

Lindsay Gray

Intern, Park Forest Elementary

Third Grade

lag251@psu.edu

Date of the Inquiry Conference

May 7, 2005

Should I Raise My Hand?

Will randomly calling on students increase voluntary participation over time? As a student, I often hesitated to participate. As a teacher, I noticed some of my students doing the same. This inquiry discusses six students and their frequency of participation after calling on them randomly during various instructional settings and core subject areas.

I. Finding My Wondering

A certain expression often crosses the faces of several of my students after I ask a question. This expression often leads me to think to myself, “Should I call on her even though she is not volunteering?” The look I notice on my students’ faces seems as though they know the answer or have an opinion about the question I asked; and, they are going through an internal struggle to decide whether or not they want to share with the group. Most often, their hand remains at their side. From the time I walked through the classroom door, I noticed a trend in voluntary participation. The same 10-12 students’ hands are always in the air, and the remaining students only volunteer to share their answers and opinions occasionally or not at all.

As a student, I was quiet and often did not raise my hand to participate in class discussions. This is not because I was not paying attention and not absorbing the information. I believe I learned just as much as any of the other students in my classes. I attribute my lack of voluntary participation to my personality type, along with other factors I am unable to pinpoint. There were plenty of times I felt I could make valuable contributions. Instead, I sat silently. I’m curious if some of the students in my classroom are guilty of this as well. It is possible that I often had the same facial expression cross my face after my teachers requested a volunteer.

When I first began taking more teaching responsibilities in my classroom, I only called on students with their hands in the air. After teaching a math lesson and reading a trip sheet my

mentor had written, I discovered less than half the class was involved in the discussion. This concerned both my mentor and myself, and she suggested I call on students without their hands in the air. Because I can remember how I felt about contributing to class discussion, it made me uncomfortable to think of forcing my students to share their ideas when they were unwilling to do so. My aim is to teach my students and create an environment in which they feel comfortable taking risks and sharing their ideas. I do not wish to make my students feel uncomfortable wondering when they will be called on next.

II. My Final Wondering and Sub Questions

The conversation I had with my mentor brought me to my inquiry question. While I still do not feel comfortable putting students on the spot, I am interested in finding a way to increase voluntary participation in my classroom. My question, “Will calling on students without their hand raised increase voluntary participation over time?” has motivated me to draw in the students who don’t raise their hands, while trying to discover whether or not this is an effective way to increase the number of hands I see in the air after I ask a question or request an opinion. I’d love nothing more than to see 25 hands in the air to respond to all of my statements or questions.

Like most teachers conducting inquiry projects, I do not expect to find a definitive answer to my question. There are other questions I am considering as I begin my data collection. What prevents my students from volunteering to participate? Is self-esteem a factor? How does off-task behavior affect the amount a student participates? Why do students, like me, that know the answer or have an opinion hesitate to participate? Lastly, research on participation has me

wondering how teacher interactions with students differ based on student achievement levels. How do these interactions affect participation trends in the classroom? What techniques could I, as the teacher, employ to increase student participation? I'm hoping to uncover the answers to some of these questions as I test my inquiry question, but I know I will be left with unanswered questions and further wonderings. As this year and inquiry come to an end, it is my hope that these continued questions will lead me to further my inquiry question and bring me closer to the answers I seek.

III. My Classroom

There is range of student ability levels in my class, including several students with exceptionalities, two ESL students, three Title I students, and a student with a prosthetic arm. One student in my class is hearing impaired and is currently going through the IST process. There is also one student with Asperger's Syndrome and another student with anger management issues. Lastly, there are five students that receive learning enrichment in math one day a week. There are nine girls and sixteen boys in my third grade classroom. We are the E-3, Park Forest Elementary Penguins... a diverse community of learners.

IV. My Inquiry Plan

Like any researcher, I began my inquiry project by making predictions. I made a list of students I felt participated nearly all the time, a second list of students that participated occasionally, and a third list of students that rarely put their hand in the air. Next, I wrote my

definition of the word participation. For this inquiry, a student is participating if he raises his hand to contribute to class discussion. This includes sharing an opinion, asking a question, or answering a question. Making predictions about how my students would define participation and what answers they would give if asked certain questions about the amount and subjects they participate was my next step. A new sub question formed during this prediction process, “Do students participate more often in subjects they enjoy or feel they do well versus subjects they do not enjoy as much or find difficult?”

A survey given to all 25 of my students began the data collection process in my classroom. (*See Appendix A, pages 1-2*) I talked to my students about surveys and data collection before I distributed the surveys. I did not tell my students the purpose of my inquiry project, I simply told them I was interested in finding out what they thought participation meant and how often they felt they participated. The students were told my next step would be to write a paper with the results of the surveys. I told the children writing their name on the survey was optional because it was possible teachers other than myself would be reading what they wrote and they only needed to include their name if they felt comfortable. I believed a student might be more honest about his participation trends and feelings if his name wasn't attached to his survey.

Because I planned to choose several students as the focus of my data collection, I was faced with the dilemma of keeping student responses anonymous to all others than myself. I designed a system that allowed me to protect my students' identities. Before distributing the survey, I assigned each child a number on the E-3 class list. As students turned in their completed surveys, I wrote their number in the top left-hand corner of the page.

I began by asking my students, “What do you think it means to **participate**?” I knew my students most likely defined the word in different ways, and I believed having an idea of the meaning of the word to each particular student could help me analyze the answers written on their surveys. I followed that first question by asking my students to circle a number indicating how often each student thinks he or she raises their hand to answer a question or share an idea. I was interested in finding whether or not my predictions matched their responses.

The purpose of my inquiry project is to find if calling on students who do not volunteer will increase their voluntary participation over time. This is a narrow question, as most inquiry questions need to be in order to collect data. Even though I am looking to answer my inquiry question, at the same time, I am interested in finding other ways to increase voluntary participation. For that reason, I included two questions on my survey asking students to provide ideas as to what the teacher could do to help ease their fear about participating and what each could do, in turn, as a means of improving their motivation to participate more frequently.

The new sub question, as previously discussed, led me to add subject-related questions to the survey. “In what subject do you think you participate most often?” and “In what subject do you think you participate least?” followed the questions, “In what subject do you think you do your best work?” and “In what subject do you think you need to work harder?” The survey was double-sided and the placement of these questions was deliberate. The questions about school habits were on the bottom of the first side of the page, and the questions about participation frequency in particular subjects were on the top of the backside of the page. I was hoping this would prevent my students from circling the same answers for the first and third question and the second and fourth question unless that was their true opinion of what subjects they participated in most often.

My next two questions required a yes or no response. I wanted to know if children thought it was fair for their teacher to call on them when they were not volunteering. I also asked if knowing that the teacher might call on you, even if your hand is not in the air, helped one be more of an active listener.

The last few questions on the survey related to how students felt about participating. I asked my students how they felt when the teacher calls on them when they do not have their hand in the air. I gave the following choices: I don't mind, Upset, Scared, Happy, Embarrassed, or Angry. I also left space for students to write if they felt there was a better word or sentence to describe how they felt when they are called on without their hand in the air.

As previously stated, I planned to choose six students as the focus of my inquiry project. To decide which six children to choose, I collected baseline data. I created a data collection sheet that included all students' desks with their initials written in the desk. (*See Appendix B, page 1*) I created codes/symbols for types of participation. I recorded each time a student volunteered, was chosen to share voluntarily, asked a question, was chosen by the teacher without their hand in the air, or spoke out of turn. I collected baseline data for five days and collected data approximately three times for each subject. I collected data in whole group and small group settings. Before beginning this phase of data collection, I predicted students might feel more comfortable participating with smaller group sizes.

Before moving ahead in my inquiry project, I had plenty of data to analyze. I analyzed the surveys by using the E-3 class list grade sheet with assigned survey numbers written next to student names. I wrote the survey questions with number, subject, or yes or no answers in each of the description lines above where grades are usually recorded. I was able to create codes in order to have all short response questions from the survey in one place for all students in the

class. (*See Appendix C, page 1*) Next, I went through the surveys six more times to make a list of class responses for the open-ended questions. I made notes of the survey responses I found intriguing in order to prepare myself to select students for my next phase of inquiry.

To analyze my baseline data, I also used a class list grade sheet. (*See Appendix C, page 2*) I used the description lines at the top of the page to write the subject and number of times I collected data in that subject. I divided each box into three sections. In the top, left-hand corner of the box, I wrote the number of times the student volunteered and was chosen to share their answer. In the top, right-hand corner of the box, I wrote the number of times my mentor or I called on the student without his or her hand in the air. In the bottom middle section, I wrote the number of times the student volunteered and another student was chosen to share their response. Occasionally, I needed to include a star in the box if the student spoke out of turn to give an answer. In the second to last column on the page, I wrote the number of times the student was called on over the number of times they volunteered. The last column showed the number of times the student was called on without his or her hand in the air with the number of times they spoke out of turn next to it.

I chose three female students and three male students before moving to the next step of my inquiry plan. I will refer to these students by their assigned number followed by an “m” for male or an “f” for female to protect their identities. The students were chosen by the amount they participated, their behaviors and characteristics, and their survey responses. I was most interested in the survey questions “Do you think it is fair for teachers to call on students when they do not have their hand up?” and “Do you think if the teacher calls on you without your hand raised, it would make you want to raise you hand more often?” (*See Appendix A, pages 3-8*)

Lastly, I wanted to be sure I chose students very different from one another so that my findings would be accurate and would not just pertain to students with similar characteristics.

Student 1m was chosen after I read his answer to my survey question, “What could your teacher do to make you want to raise your hand more often?” 1m’s response, “call on people that are not raising their hand” related directly to my inquiry question. I was also intrigued by the fact that 1m felt it was fair for teachers to call on students without their hands raised and he felt if I called on him more often, it would make him want to raise his hand more. 1m is a music lover, is outgoing, and loves to make others laugh. He is sometimes off-task during direct instruction and has been known to distract other students by talking. The amount of times he raised his hand during the data collection period was 32. He was called on to share his opinion or answer 6 of the 32 times his hand was in the air. Between my mentor and myself, we called on him without his hand in the air twice during baseline data collection. 1m did not speak out of turn while I was collecting data at this point, but he had been known to do so quite often. I am considering 1m the control student in my inquiry project. Even though he did not participate the most of the six students during baseline data collection, his participation over the entire school year has been more frequent than the remaining five students.

Student 2f is the first student I thought of including when beginning my inquiry project. The expression I spoke of in section A of my paper directly pertains to student 2f. She is intelligent, sweet, quiet, and always looking to please others. After reading her survey and checking her participation numbers during baseline collection, I knew I wanted to include her. She only raised her hand 22 times during baseline collection, and was called on eight of those times. In her survey, she indicated that she doesn’t feel it’s fair for teachers to call on students without their hand in the air. She said it makes her feel scared when a teacher does this. For the

last question, she wrote that the teacher calling on students without their hand in the air would help students participate more, “because you won’t be scared anymore because your hand was already up.”

3m is an interesting case. He raised his hand 13 times during baseline data collection, the lowest of any other student. He was called on four of those times. In his survey, he wrote that it is fair for teachers to call on students without their hand in the air. I believe that he misinterpreted the survey when he wrote that he feels proud when he’s called on when his hand is not in the air. This is because he answered yes and wrote, “because when I’m called on, I’m happy but not that proud” to the last question about whether or not his teacher’s calling on him without his hand raised would increase his voluntary participation. (*See Appendix A, page 5*)

3m is immature compared to the other students in the class. For example, he wrote that his teacher could make him want to raise his hand more by “pronounce it more better” which shows me he sometimes does not understand what my mentor and I are saying or asking.

Student 7f has me convinced she uses silliness to cover up her feelings of nervousness. She often purposely stutters while answering a question in order to make the other students laugh. In her survey, she pointed out that she doesn’t think it’s fair for teachers to call on students without their hand in the air, and she feels shaky or embarrassed when it happens to her. She was certain that my calling on her without her hand in the air would not make her want to participate more, “because I don’t know some answers and people might laugh.” I believe her silliness, as described above, is a way of controlling the reason others laugh at her. I believe it is important to her that the other students are laughing with her, and not at her.

I was surprised by the number of times 7f participated voluntarily during baseline data collection. She raised her hand 47 times, considerably more than any other chosen student. (She

was called on 15 of those 47 times.) The majority of the times she participated were in math. During the baseline period, our class was studying geometry. Around this time, 7f began receiving Title I math instruction. 7f did very well with the geometry concepts that did not involve nearly as much problem solving as other third grade math concepts do. The geometry information was much easier for her and I believe she was eager to show her math knowledge. 7f often needed to be moved during direct instruction on the carpet. She often chose to sit around the edge of the carpet, and my mentor and I often asked her to move to the center, directly in front of the teacher. She was easily distracted, and moving her helps her remain focused.

21f was sometimes asked to move during instruction time as well. Like 7f, she also chose to sit around the edge of the carpet. 7f and 21f are close friends, and I believe they often distracted each other. I saw many of the same characteristics in 21f as I do in 2f. 21f is sweet, always asked if there is anything she can do to help my mentor or myself, and often has that same expression cross her face after a question is asked or opinion is requested. She is very creative and loves drawing. I was surprised to read that she felt it was fair for teachers to call on her without her hand in the air. She wrote that it would make her want to raise her hand more often because it would make her want to pay attention in order to know the correct answer.

The last student I chose, 9m, wrote that it is not fair for the teacher to call on him without his hand up because it makes him feel embarrassed. He did state the teacher calling on him without his hand up would make him want to raise his hand more, “because he/she’ll call on you anyway.” He raised his hand 20 times, the second lowest of the students in the group. My mentor or I called on him seven of those 20 times his hand was in the air. 9m sometimes

complained and made excuses for why assignments were not completed. He is a critical thinker, an excellent reader, but often struggles putting his ideas on paper.

After choosing the students, I created a second data collection sheet. (*See Appendix D, page 1*) This sheet had a large table on it with seven columns and eight rows. My mentor and I created a code for each of the students so we were both able to collect data while the other was teaching. The code names were written at the top of the last six columns. At the top of the first column, subject and topic were written. The remaining seven rows in the first column were filled in with reading, spelling, math, daily oral language, writing, social studies/science, and other. My mentor and I discussed what kind of code system should be used in order to be sure data collection was as simple as possible for both of us.

My mentor and I focused on my six students for the following 18 days of phase two data collection. We called on the six students when they did not have their hand up as much as possible without taking away from instruction or the other 19 students in the class. I collected data while my mentor was teaching, and my mentor or the paraprofessional in my classroom collected data while I was teaching.

In order to analyze my new data, I used a clean copy of the phase two data collection sheet and totaled numbers the same way I did after completing my baseline data collection. (*See Appendix D, page 3*) I laid all eighteen data collection sheets in a line, showing only one student column at a time. I divided the subject squares into three sections and tallied the number of times each student was called on without their hand the air, the number of times each student raised his or her hand and was called on, and the number of times each student volunteered but wasn't asked to share. I totaled each of these numbers for each student and wrote them in the "other" section on the final data collection sheet.

Because of the nature of a classroom, it was impossible to compare participation over the same time period for each student. Subject content, lesson formats, and student absences prevented me from being able to provide “before intervention” and “after intervention” results that could be directly compared. Instead, I compared each student’s participation during baseline data collection to his or her participation during the intervention after comparing those numbers to the frequency of participation of the other students.

I began by making a list of the number of times each student volunteered during baseline data collection. Next, I numbered the frequency of participation for each student with one as the highest and six as the lowest. I wrote the number of times I was able to randomly call on the student next to their baseline number. After that, I wrote the number of times each student volunteered during the intervention and numbered those results assigning the highest number a one and the lowest number a six. Finally, I subtracted the frequency of participation during baseline data collection from the frequency of participation during the intervention period. I compared these numbers for all six students to find how much the intervention affected each student. (*See Appendix E*)

To conclude my classroom data collection, I interviewed the six students involved in the inquiry project. I repeated several of my survey questions, telling the children they may have heard the questions previously, but I was interested in seeing if their answers changed. I asked students to rate their frequency of participation on a scale of one through five, as they had done on the survey. The subject related questions were also repeated. Finally, I told the students I was interested in how they felt about being called on without their hand in the air. I concluded the interview by discussing reasons they felt this way.

V. What I Learned about Student Participation (in E-3)

- a. CLAIM A: The majority of students participate most in subjects they feel they do well, and least in subjects they feel they need to work harder.

For survey questions three and five, “In what subject do you think you do your best work?” and “In what subject do you participate most often?” thirteen students circled the same subject choice. Seven students circled the same answers for the opposite questions on the survey. These seven students felt they participated least in the subject they need to work harder. Four of the thirteen students that felt they participate most in their best work subjects, also felt they participate least in the subjects in which they need to work harder.

As further evidence, three of the six students I interviewed after my phase two data collection confirmed that they participate most in the subject in which they do their best work. This is most likely due to the confidence they feel with the subject matter. If students feel a particular subject is easy for them, or they are considerably knowledgeable in the subject, it makes sense that they would want to share their knowledge with others. Conversely, students who feel they need to work harder in a subject most likely do not feel as confident sharing their ideas.

- b. CLAIM B: Students participate more when conscious of their participation.

Several hours after completing my survey, student 2f approached me. She said, “Miss Gray, I need to move my participation number up on my survey. Ever since I took the survey,

I've been participating more!" Although I feel my intervention was least successful with student 2f, her comment to me shows that if a child is thinking about the amount they participate, they are more willing to raise their hand.

I can also use myself as an example to support this claim. During the fall semester of this year I was enrolled in four different classes. I rarely raised my hand in three of the four classes. I often volunteered to share my opinion in the fourth class because participation was part of the grade for the course. Each time I attended the class, I raised my hand to share an idea at least twice. I attribute this to the fact that I was thinking about needing to participate, so I did. I have also considered the fact that my grade in the course was a positive reinforcer for my participation, but this was not the direction of my inquiry at this point.

Although my inquiry project did not relate to the area of positive reinforcement for participation, I have one such example I will use as evidence to support claim B. During a math lesson, my mentor positively reinforced students by giving out Hershey Kisses after a child gave an answer. One can argue the Hershey Kiss was the reason for the raised hand, but I believe the students were also more conscious of their participation after they heard they would receive the chocolate. Therefore, they were more willing to put their hand in the air. (All students in the class received a Hershey Kiss by the end of the math review.)

- c. CLAIM C: Students are more likely to participate when they feel the teacher thinks their opinions or answers are valuable.

Student surveys led me to conclude students need to feel that their teacher thinks they make worthwhile contributions during class discussion. Student 1m's answer to the last question

on the survey about whether or not calling on students without their hand in the air will increase participation made me think about this claim. His answer, “because if you call on me often, I will raise my hand more” led me to infer he felt his teacher’s calling on him meant she feels what he has to say is important. Another survey response to the same question, “because she might think I have a good answer and so she’ll call on me,” confirmed this idea. Teachers must not only create an environment in which their students feel safe sharing their ideas, but they must create an environment in which all students feel their input is important and wanted.

Research has proven that teachers call on students they perceive as high-achieving students more often than students they perceive as low achieving. “Good and Brophy discovered as long ago as 1969 that students perceived as high achievers were being given response opportunities three to four times more frequently than those perceived as low achievers.” (Kerman, 1979) Kerman questions whether a student is unable to answer questions posed to him because he is incapable of following class discussion or because the student does not listen and didn’t hear the question. Either way, “Low achieving students soon realize they are less likely to be called on, especially if they look puzzled.” (Good, 1987)

Researchers conducted a three-year study to discover if academic growth would result if teachers practiced specific motivating and supportive interactions more frequently with low achievers. The project found “approximately 2,000 identified low achievers in experimental classes showed statistically significant academic gains over their counterparts in the control classes.” (Kerman, 1979) This shows that those low achievers were able to overcome the idea that their teacher does not find their contributions valuable just because they are low achievers. Promisingly, low achieving students were not the only children that benefited from this study. “Although project emphasis was directed to perceived low achievers, all students in the

experimental classes, not just the lows, showed statistically significant gains over those in control classes.” (Kerman, 1979)

Including all children in classroom discussion, even if it means calling on them without their hand in the air, shows students their ideas benefit the others in the classroom and their teacher finds their ideas worthy. The fact that high achieving students benefited from The Equal Opportunity in the Classroom study shows that teachers must work hard to include all students in discussion and interact with low achievers in the same ways they interact with high achievers. This allows students who learned from an early age that they are not called on in class discussion to become more motivated to follow the discussion because they know their input is desired by the teacher.

d. CLAIM D: Randomly calling on students helps children to be active listeners.

17 of the 24 children who completed my survey indicated that knowing they may be called on even if their hand is not in the air helps them to be more of an active listener. Since I read the trip sheet my mentor wrote, it became easier for me to call on a student without his hand in the air. In part, this is due to my inquiry project but through experience, I’ve found it’s necessary to call on students without their hand up in order to keep them focused and on-task. At the beginning of my internship year, I was not nearly as aware of student behavior while I was teaching as I am now. I can easily pick out students that are not focused. Instead of making children feel uncomfortable by asking them to answer a question they most likely did not hear, I began giving students a warning telling them I’d be coming to them next. This effectively brought the student back into focus, and I believe it showed them I felt their opinions and ideas

were valuable and I wanted them to pay attention so the remaining students in the class could benefit from their contribution to the discussion.

- e. CLAIM E: More than half of the students in E-3 do not mind being called on when their hand is not in the air, and most students in the class believe that randomly choosing students to participate will increase voluntary participation.

I predicted most students would answer that it is not fair for teachers to call on students without their hand in the air. The prediction I made regarding this question was incorrect. Fifteen of my students believe it is fair for teachers to call on them without their hand in the air. This means that only nine students believe it is not. Three of the students that believe it is not fair were focus students for my project. Interestingly, 12 of the 15 students that think it is fair stated they didn't mind being called on when their hand is not in the air, but the remaining three students who think it is fair are embarrassed, shy, scared, or shaky when they are chosen to share without volunteering. My aim was to curb these feelings in my students and make them feel more comfortable sharing their ideas.

- f. CLAIM F: Randomly calling on students does increase voluntary participation over time, *but* it affects students in different ways. (See Appendices F and G)

Student 1m, “the control,” benefited most from being chosen to share when his hand was not in the air even though he was “randomly” chosen to share the least number of times of any other student involved in the project. Part of this can be attributed to his low frequency of

participation during baseline data collection, but I also feel providing a warning to 1m while he was off-task proved to be a good strategy to use when attempting to re-focus him. He was called on without his hand in the air 26 times over the 18 days of the intervention. During baseline data collection, 1m raised his hand 38 times. During the intervention period his hand was in the air 141 times, a difference of 103.

When interviewed, 1m stated that he sometimes felt nervous when called on without his hand in the air. On his survey, he indicated that he didn't mind when his teachers called on him without his hand in the air. I'm wondering if the fact that I began calling on him more often without his hand in the air, even though he is a regular participator, caused this new feeling of nervousness. 1m said that he feels nervous because he needs more time, which is something I can control as the teacher. He stated that he thought he was volunteering the same amount or "maybe just a little more" than when he took the survey.

2f, the student that often gave me the expression I spoke of earlier, benefited least from the intervention. She raised her hand 30 times during baseline data collection and 63 times during the intervention period, for a difference of 33. Because she participated voluntarily less than any other student involved, I was able to call on her without her hand in the air 41 times.

Of all students involved, 2f needed to be re-focused the least number of times. The intervention data showed me that randomly calling on 2f did not increase her voluntary participation over time and she stated her scared feelings were still present during the interview. Because she changed her participation frequency number to a four only hours after she took the survey, she still believed four was an accurate number to describe the amount she participated. I'm wondering... if she had left her frequency number as a three, would her opinion have changed?

I believe student 3m did benefit from the intervention. During baseline data collection, he raised his hand only 17 times. This yielded a difference of 61 after finding that he volunteered 78 times during the intervention data collection period. Of all the students involved, 3m could be considered the low achiever of the group. During the interview he informed me he still doesn't mind when I call on him without his hand raised. On his survey, he indicated that he feels happy or proud when he's chosen to share. I am hoping the intervention showed him my mentor and I do value his opinion, and that made him want to share more often.

The intervention helped student 9m participate more frequently. While he said during his interview he still felt embarrassed when his teacher called on him without his hand in the air, he became more willing to volunteer during the intervention. I was able to call on him without his hand in the air 36 times, the second highest in the group. The difference between his baseline voluntary participation and his intervention voluntary participation was 87, the third highest number. His rating among the other students where numbers were involved was third highest, as previously stated, but I feel he benefited most from the intervention. After completing the phase two data collection, 9m continues to raise his hand quite often, and I rarely see him off task during instruction time.

7f and 21f had more characteristics in common than any other students involved. The difference between 7f's participation before and after the intervention was 60, higher only than 2f. This was due to her high frequency of participation during baseline data collection. 21f's difference in numbers was more accurate. She volunteered 39 times during baseline data collection and 131 times during the intervention period.

Both students gave similar answers to my interview questions. 21f stated she still feels nervous when called on without her hand in the air because it "comes out of nowhere." 7f feels

scared if she doesn't know the answer, but feels happy if she is able to answer the question. 7f, like 1m, informed me that she sometimes needs more time to think. 21f and 7f circled three on their survey when rating their frequency of participation, but both students told me four in the interview, which shows the amount of times they felt they participated had increased. Both students agree that my calling on them without their hand in the air has helped them stay more focused during instruction time.

In summary, this intervention directly benefited all students with the exception of 2f. The intervention affected all six students in different ways, but their instances of voluntary participation increased. 2f's difference from baseline to intervention was only 33, which I attribute to the five-day baseline data collection period versus the 18-day intervention data collection period.

VI. Conclusions and Future Directions

This inquiry showed me that it is okay to call on students without their hand in the air. Whether the purpose is to refocus the student, make the student more comfortable expressing their ideas in front of others, or to show the student their contributions are important, choosing students to share that don't have their hand up is valuable. I never want to make my students feel uncomfortable, but I don't want a student to think it is acceptable for them to "zone-out" while I am teaching because they believe I won't call on them.

Because the intervention was successful with five out of the six students involved, I will continue using this practice in my teaching. While my inquiry question, "Will randomly calling on students increase voluntary participation over time?" was answered through this project, the

type of student I was hoping it would benefit was not benefited at all. Student 2f still feels scared when speaking in front of others, and putting her on the spot was not an effective way to curb that feeling. The other students involved still attached negative feelings to being randomly chosen to participate, but the amount their hand went up increased during the intervention period. I'm still wondering if this means they are trying to avoid being called on when they aren't raising their hand. Is it possible they believe that I won't call on them without their hand up if they volunteer more often?

In the future, I plan to try a reward system for low-frequency participators that I believe do pay attention, but are scared to share their opinions. When I discussed my inquiry with another teacher, he recommended that I provide the student with a set number of chips at the beginning of each day. Next, I would tell the student she needed to use each of her chips throughout the day by raising her hand to share an opinion or answer a question. Each time she shared with the class, she would need to move a chip from one of her pockets to the other. If all chips were used by the end of the day, she would receive some sort of prize.

Because of the narrow focus of my inquiry question, many of my sub questions were not answered. I will take what I have learned from this project and use it to shape future questions in order to further this inquiry. Because I was most interested in the students who have that hesitant expression cross their face when I pose a question, this will most likely become my new focus by attempting to implement a positive reinforcement system in the future.

This inquiry was successful in promoting my growth as a teacher. I now strive to include all of my students in classroom discussions, and I now realize allowing students to sit silently does not benefit them or the other students in the class. All children need an equal opportunity to participate regardless of their achievement level. As their teacher, it is important that I treat all

responses in the same way. Because two of the students I interviewed said they sometimes need more time to formulate an answer, the first step I will take to improve participation in my classroom is allow more wait time. I will continue to give my students a “heads-up” before I call on them, but if this is not feasible, more wait time will be given. I will continue to use these practices in the classroom until further inquiry work or research steers me in another direction.

References

- Kerman, S. (1979, June). "Why Did You Call on Me? I Didn't Have My Hand Up!" Teacher Expectations And Student Achievement Level. Kappan, A1-A2.
- Good, T. (1987). Equitable Distribution of Response Opportunities. Response Opportunities, D1-D2.