Creating a Community of Math Learners:

*Effective Grouping Strategies for Academic Success in Math*

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Teacher Inquiry- May 2010
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**Context:**

As an intern through the Professional Development School program, I work in a first grade classroom at Park Forest Elementary School. Within my classroom, there are 16 total students, a paraprofessional, my mentor and myself. Eight of the children are male and eight are female. Socioeconomically, the class varies. Their home lives range from living with one parent to multiple family members.

There are several students in the class that receive special services during the school day. Three students attend speech. Students who attend book club and Title I are considered below grade level or at risk of becoming below grade level in reading. About half of the class either attends Book Club or Title I Reading Support services. As students make progress they are able to move out of these programs. So far, two students have moved out. The remaining students are considered on grade level and some are higher-level readers as well. Three students in the class have been or will be referred to the Instructional Support Team (IST) this year in order to receive assistance. Two of these students have been granted Learning Support, where the student receives individualized instruction in both math and language arts. In terms of math, for the most part, the same students who are lower in reading are also in the same category for math.

In terms of classroom organization, students work in stations for language arts. Within these stations, students receive guided reading practice, phonics (with a program called Making Words) and spelling. During these times students may also have computer time where they work on language arts based programs, attend outside services or have independent work time. Students rotate to the stations in groups. These groups are
developed based on ability level and sometimes need to be altered depending on successes or backtracking of student progress. For math, students are typically taught a lesson as a whole group. Sometimes they work in pairs (again, strategically chosen by ability) or rotate in stations depending on the content of that unit. Currently during math, there are 14 students present in the classroom.

**Wonderings and Sub-wonderings:**

**Main Wondering:** My wondering stared off as wondering about differentiated instruction in math. Since that could turn out to be a very broad topic, I decided to focus specifically on grouping. I wanted my students to have opportunities to work with others in the class, besides those who they typically worked with. My wondering developed into:

*What are the most effective strategies for grouping students for math instruction?*

**Sub-wonderings:**

*How do teachers balance strategic partnering while honoring student choice?*

*How do teachers mix up groups so that students get to work with others in the class?*

*How do particular lessons dictate how I group my students?*

**Data Collection and Analysis:**

**Math Interest Survey**

Before beginning to introduce different grouping strategies for math, I decided to give my students an interest survey. My goal in doing this was to see how
my students felt about math in general. I asked them questions such as, “I like to work with others during math” or “I like working by myself during math.” In total there were 5 questions. In response to the question, the student had to circle yes, sometimes or no (Appendix C).

**Analysis**

My goal in these surveys was to get a sense of how students view math. I was curious to find out how students feel about the different ways I teach in whole group, individual and pairs. I encouraged my students to answer honestly and individually. Looking at some of my students’ responses surprised me, which is why later I chose to pull those surveys out and interview these students. (See follow-up interview in appendix).

**Grouping Rubrics**

Every other day, students were grouped differently. I chose to group students randomly, by ability and then by student choice (with guidelines.) The pairs worked together for two consecutive days to allow for longer periods of collecting assessment data. Student choice data was collected only once. In order to assess how well pairs of students were working together, I developed a rubric (Appendix D). Within this rubric I made three different performance levels. Level one shows the least amount of success as partners. This includes being off task most of the session, four or more teacher reminders, needing teacher intervention with behavior, not encouraging partner’s mathematical thinking, not completing the assignment or following directions. Level two shows an average partnership. In this
category, students are on-task most of the session with three to four reminders, needing little teacher intervention, sometimes encouraging partner’s mathematical thinking, almost completing the assignment and sometimes cleaning up materials. Finally, Level three performance constitutes the highest level of performance of partnership. In order to achieve this, students must be on-task the entire time, needing zero to two reminders, needing no teacher intervention, partners encouraging each other’s mathematical thinking, fully completing the assignment and consistently following directions. Also on my rubric, there was a section of observation notes. Here was a space that any student quotes or anecdotal notes could be written about a pair while watching them.

Analysis

Obviously, sometimes students fell into different categories, for example following directions at a level one and being on task at level three. Students also sometimes showed these characteristics individually. My mentor, PDA (Professional Development Associate –advisor) and I checked off whatever behavior the partners were displaying at the time. At the end of the math session, I would tally up what category had the most check marks, and then decide on the final level of performance. The observation lines also allowed for any interesting dialogue to be noted or behaviors that did not fit into the rubric.

Exit Slips

At the conclusion of each math session with partners, I had my students complete an exit slip. The slip required students to both circle a response as well as
write. Questions included writing the name of the student’s partner, something they
did well together and something they could work on next time. I told students that
simply putting “nothing” or “everything” was not an appropriate response. I
explained that even the most successful people always have something to improve
upon. I also had a question that asked if students felt they cooperated. The response
was to circle yes or no. Before taking the exit slip, we discussed what cooperation
looks like, sounds like, etc. When students were able to choose their partners, I
changed the cooperation question to ask if they thought their partner choice was a
smart choice. We also discussed what a “smart choice” looked like, sounded like, etc.
The students were with the same partner for two days in the various groupings
(Appendix E).

**Analysis**

It was my hope that my students’ responses in their exit slips would show
that they improved on something they had mentioned the day before. I noticed that
some of the responses that were written aligned quite well with my observations,
yet some were completely opposite. In order to analyze this data, I compared what
each student had written each day and noted how similar or different they were. I
also compared what each partner had written to see the similarities and differences.

**Follow up Interviews about Surveys**

At the conclusion of my attempted strategies, I pulled out a few students to
interview them about their first survey as well as their thoughts on the partners
they worked with. I recorded our conversations on Garage Band. The conversation
mainly focused on the initial survey, however for those students who like to chat, I asked questions about their partners, what makes a partnership successful, etc (Appendix F).

**Analysis**

In order to decide whom I would choose, I looked at some of the responses that students had written on their papers. I asked students whose responses I agreed with, disagreed with or surprised me to talk to me. Most of their responses had remained the same as when they took the original survey, but it gave me a look into their perspective about math. I did have a few students change their responses since the original interest survey as well as some that told me one thing but explained their response with a different answer. Having a one on one conversation gave me great insight to how students feel about the different ways I set up teaching math in the classroom.

**Claims and Evidence:**

*Claim #1: Allowing students to choose a partner while providing high expectations gives students the ability to increase self-monitoring skills and develop into more thoughtful and independent learners.*

*Evidence A:* During my math lesson, my mentor took notes of my directions that I gave to my students. We first discussed what makes a good partner. Students volunteered their responses such as not fighting and working together. The directions I gave were, “You need to pick a partner. I will tell you whether I agree with your decision or not. When you have decided that you have made a good
choice, make sure that you can help each other in math, work together nicely, finish work and follow directions and then come show me.” After students chose their partner, I noted, “I am pretty sure I like your choices.” Out of the six pairs, only two had members that were in the groups they typically work with during reading groups. The remaining four varied in their ability. My explicit instructions demonstrate that I can give my students the opportunity of choice, while guiding them in the decision making process. I have continued this strategy in math since implementing it for my inquiry and have continued to see positive and productive partnerships. Setting high expectations and making students aware that the teacher has the “final say” allowed this strategy to work in my classroom.

**Evidence B:** Another piece of evidence are some of the conversations that students had together during math. For example, one of the students in a pair (who are the same reading level) stated, “Let’s count and make sure.” Both partners worked together to ensure that their answer was correct. Neither partner grew frustrated with the other and appeared happy to check their answer. Another student said to his partner, “Let’s count, does this equal 7?” after I asked him to help his partner. The student continued to assist and model how he solved the problem himself, even after I had walked away. He remained engaged with his partner listening to his thinking as well as clarifying the question being asked. I observed that the demeanor in the classroom was calm and there was a lot of laughter. Students in the classroom genuinely enjoyed themselves. Also to be noted, every set of partners, with the exception of one answered “yes” to the exit slip question asking if their partner was a smart choice.
Evidence C: Lastly, I used the previously mentioned rubric to assess the level of performance of the pairs. The data I collected from the student choice day was that five out of six pairs scored the level three performance. The pair that did not receive the level three performance scored level two. It should be noted that this is the same group that circled no for their exit slip about making a smart partner choice. They also were the remaining two students at the end of choosing partners. Since they essentially did not choose each other, I question whether this data could have resulted differently. These results from the rubric show that the students chose partners that they worked with very well. Their choices constitute high levels of performance in partners.

Claim #2: Random grouping can be successful, however, strategic placement with particular students would prove beneficial.

Evidence A: During random grouping, I continued to use the same rubric as previously. Contrary to student choice, random grouping resulted in two pairs at level one performance, two groups at level two performance and two groups at level three performance. During these two days, two of my students were absent. The students who classified as demonstrating level one performance had many behavioral issues that interfered with their ability to get anything done. One student needed frequent reminders and constant teacher assistance to maintain focus. Her partner grew quite frustrated from this lack of interaction. He stated, “You did not listen.” This partner also noted on his exit slip that they did not cooperate and it was something they needed to work on. If I were to randomly group again, I would have
not put these two students together primarily because of behavior. Interestingly, the next day this student’s partner was absent. I moved him to another group. This group had scored level three performance on day one. By adding this student, the original group was able to maintain the same score, but individually he scored low. Perhaps strategically placing him with another group would have eliminated this issue. The rubric results can be found in the appendix. Another observation I made was the change in rubric results from the two days. These scores showed that one group was in level one, three groups were in level two and two groups were in level three. From this experience I learned that random grouping causes very random results. Despite how many expectations I can set for my students, I found that structured groups or student choice (with guidelines) are more beneficial.

Claim #3: Having students working together for more than one day allows students to be reflective about their performance as a pair.

Evidence A: After each day of working with a partner, I had students complete an exit slip. On this paper, the student needed to write their partner’s name and answer a few questions. The student’s exit slips gave some interesting insight into their thinking. For example, I had a set of partners that both agreed upon their need to not argue and figure out who goes first in the game. While not all exit slips resulted in the same responses from each partner, I wanted to see more individual perspectives of the day. My goal was to make students aware of the things they wanted to work on from day one and make it improve (or even something they did well) for day two. I did see in one of my students’ papers that he had written on day
one of random assignment that he wanted to improve on cleaning up. On day two, it was listed as something they did well together. See appendix for student work.

Similarly, another student wrote on both days one and two that she felt they needed to work on sharing. Considering the pair that this student was a part of, I felt that this is an accurate statement. I am confident that continuing this type of form would be beneficial over time.

**Evidence B:** Another observation that I noticed about my students was their change in performance level from the two days. During day one of academic grouping, one group achieved level one, one group achieved level two and five groups achieved level three. On day two, the level one group moved up to level two and the level two group moved to level three. Therefore, two groups increased their performance. During two days of random grouping, slight changes occurred. On day one, there were two groups in level one, one group in level two and two groups in level three. On day two, one of the level one groups moved up to level two and the remaining groups maintained the same scores. The group that moved into level two was beginning to show evidence in level three. During random assignment, one of my students was absent so I sent the partner to join another group. By adding this student to the group the overall performance went down, but the two original students maintained the same behaviors. This was noted because we put the names next to the criteria. The chart below illustrates these findings on day one: *Please note attendance effects total number of groups each day. The y-axis shows the number of students receiving a certain score.
The below graph illustrates the findings of day two:

**Evidence C:** At the end of my inquiry, I decided to do follow up interviews with some of my students. I used the original survey from the beginning. I pulled students
whose responses surprised me. I also chose students who I knew would talk to me. From these conversations, I was able to get more insight into their experiences. One student told me that he doesn’t like to work on the carpet because “a lot of times the people talk to me.” He also told me that the best math lesson would be to sit in seats with separated desks and a really quiet environment. Interestingly, this student is often distracted by others in the class. This response is quite honest. Similarly, another student told me that he doesn’t like working on the carpet because “people bug me.” He does however enjoy playing games on the carpet as well as working with partners. Another student described a “good partner” as someone who is “quiet when the person is trying to tell you an idea.” When I asked her who she likes to work with most, her response was a student who she works with in reading group as well as during student choice. Her reasoning was “I’ve been working with her for a long time.” I asked, “Is it good to work with the same partner over time?” She responded, “yes.” Throughout my conversations with my students, I was able to listen to both their experiences as well as perspectives about what works for them in math class. Reflecting on their experiences proved to be beneficial to both my students and I.

**Reflections and Future Practice:**

From doing this inquiry project, I have learned more about my students’ learning styles as well as my teaching strategies. I know how important it is to know my students individually, but I learned how valuable it is to get their input on certain methods of instruction in the classroom. Even though my students are quite
young, being first graders, they all know what makes sense, what they like to do and what is fun. Getting insight from my students is something that I will continue to do in the future because I see how that can really drive instruction.

In terms of math instruction, I have learned a lot about grouping students. What drove me to do this project was mainly my interest in differentiated instruction. I also didn’t want students to always be grouped by ability. My classroom definitely has a sense of community, but when it comes to grouping, my students often work with the same students. While there are many benefits to this way, I wanted to experiment and compare how successful randomly, ability and student chosen partners would be. While there were some expected outcomes, there were also some surprises along the way.

In the future, I can see myself changing up groups every once in awhile so that students have the opportunity to work with other peers. I found that when I set high expectations for student choice, my students really tried their best to pick a “smart” partner. A “smart” partner meaning a classmate that a student can get along with, work well with and learn with. Even though random grouping had to have a little strategy put into it, I can definitely see trying it again. I am convinced that no matter what age, students can make wise choices when given guidelines. I have learned so much about all of my students through this project. I have also learned that my natural curiosity can make for a beneficial learning experience for both my students and myself.
Appendix

Appendix A: Inquiry Brief

**Context:**

As an intern through the PDS program, I work in a first grade classroom at Park Forest Elementary School. Within my classroom, there are 16 total students, a paraprofessional, my mentor and myself. Eight of the children are male and 8 are female. Socioeconomically, the class varies. Their home lives range from living with one parent to multiple family members.

There are several students in the class that receive special services during the school day. Three students attend speech. Students who attend book club and Title I are considered below grade level or at risk of becoming below grade level in reading. About half of the class either attends Book Club or Title I Reading Support services. As students make progress they are able to move out of these programs. So far, two students have moved out. The remaining students are considered on grade level and some are higher-level readers as well. Three students in the class have been or will be referred to the Instructional Support Team (IST) this year in order to receive assistance. Two of these students was granted Learning Support, where the student receives individualized instruction in both math and language arts. In terms of math, for the most part, the same students who are lower in reading are also in the same category for math.

In terms of classroom organization, students work in stations for language arts. Here they receive guided reading practice, phonics (with a program called Making Words) and spelling. During these times students may also have computer time where they work on language arts based programs, attend outside services or have independent time. Students rotate to the stations in groups. These groups are developed based on ability level and sometimes need to be altered depending on successes or backtracking of student progress. For math, students are typically taught a lesson as a whole group. Sometimes they work in pairs (again, strategically chosen by ability) or rotate in stations depending on the content of that unit.

**Rationale:**

There is no question that in our classroom there are a lot of different types of learners and ability levels happening all around. In the beginning of the year I was so surprised to see such a wide span of academic differences in a first grade class. I noticed how when we began to do language arts stations that my mentor would group kids by ability level. I also saw how she organized partners for different activities such as math. It fascinated me how some groups could be really successful and others still struggled. I have a minor in Special Education and have always been interested in differentiated instruction. The idea of having 3 adults (me, a paraprofessional and mentor teacher) for such a small class amazed me. When I was in elementary school there was 1 teacher,
perhaps and aide, and then 25 students. I started to wonder, how do you teach without extra support? How do you give kids the attention they need and group them in such a way that they will all be successful? What strategies can a first year teacher use to do this?

**Wonderings**

Main Wondering: What are the most effective strategies for grouping students for math instruction?

Sub-Wonderings:
* What are the benefits of group practice as opposed to independent practice?
* How do teachers balance strategic partnering while honoring student choice?
* How do teachers mix up groups so that students get to work with others in the class?
* What are effective ways to group for math that veteran teachers use year after year?
* How do particular lessons dictate how I group my students?

**Data Collection:**

For data collection, I plan on using a variety of methods including:

1. Student interest surveys about working in groups/pairs/individually. These include surveys that circle an answer as well. I plan to do follow up interviews with a variety of students to ask them about their survey responses as well as hear if they changed their minds.

2. Create a survey to distribute among the primary team focusing on my sub-wonderings of the effectiveness of veteran teachers. I would also ask out of the categories of grouping-random, behavior, content, motor skills, academic level, etc. what do they most often lean towards. Is it a combination of some? Why?

3. Anecdotal notes when students are working in different types of groups that I establish such as: random, behavior, content, motor skills, academic level, etc. I would primarily focus on the children’s interactions, quality of work, etc.

4. I will use self-created rubrics for observations of group structures (can also use for days when there is independent work). Within these rubrics I am identifying the score based on the completion of work, stayed focus, reminders given, movies, student work. I will also use exit slips after certain whole/small/independent work sessions to evaluate the student’s learning of the content and feelings about the assignment (content and partner).
**Timeline:**

**02.25.10:** Meet with Susan

**Week of 03.01.10:** a) Give a student survey about working in groups/pairs/individually during morning meeting

**Week of 03.08.10:** Spring Break.

**Week of 03.15.10:** Analyze student responses to surveys and choose students I would like to interview

**Week of 03.22.10:** Interview students about their responses

**Week of 03.29.10:** Data collection through interviewing students about their responses (continued)

**Week of 04.05.10:** Data collection-grouping students into the different categories (content, academic, behavior, etc) and taking notes

**Week of 04.12.10:** Data collection/analysis

**Week of 04.19.10:** Finish data collection/analysis-submit rough copy April 23rd

**Week of 05.03.10:** Conference Prep

**05.08.10:** Inquiry Conference at PFE

   Final Inquiry Paper to be submitted by 05.16.10
Appendix B: Annotated Bibliography

Annotated Bibliography


This article will be useful to my project because it discusses the basis of what differentiated instruction is as a whole. It also has a section describing strategies for implementing it, including using diagnostic assessments either formal or informal, determining student interest and also identifying student learning styles and environmental preferences. The part that I like best about this article is that it has a variety of suggested strategies, the focus of differentiation, the definition and an example. The information in this article is funded by the U.S. Department of Education, so it is reliable and a good source.


In this text, there is a section about cooperative learning groups and it’s role in adults’ lives. One of my focuses will be on different grouping strategies, but I thought that this paragraph succinctly gave a real-life connection to some of the strategies I will be/am using in my classroom.


This text gives information about the math skills that children are learning about depending on their age. The five year old section helps me see what the students learned in kindergarten while the six and seven year old sections helps me understand the basics of my class’ potential. It is also nice to see what skills they will be learning in the following grades. This information is a good reference for me to understand both the developmental stage my students are in as well as what prior knowledge they will have and what they should know before leaving first grade.

This article comes from the Oxford Review of Education, which can be considered a reliable resource. Despite that this article is about 10 years old, it has some very valid information about teacher practices. Because of this date of this article, I may be able to use it to show the differences in grouping in classroom instruction over the years, or compare it to the findings that I gather.


This text explores the strategy of ability grouping. Within the book, it explores both teacher’s and student’s perspectives of grouping, which will be helpful especially comparing it to the results of my student interviews/surveys. The book also gives alternative grouping strategies such as mixed ability teaching, vertical grouping, gender structured groupings, etc. Since I am exploring the most effective methods of grouping, this text may be helpful in verifying or disproving my future claims.


This article has a lot of mathematical components in terms of its’ data collection. It discusses a variety of factors including class size, ability grouping, etc. Out of all the articles, this seems to be the most statistically based, which can also help support some of my data analysis, disprove it or add to it.


This article uses data from first year teachers about their beliefs about math and their teaching practices from March of their first year of teaching into December of their second year. The data from this article will assist me with my sub-question about different teachers approaches to math based on experience. It could also possibly help me when comparing my collected data and analyzing it with this study.

I chose this article because I thought it would be interesting to see through a survey study’s data the impact of standards on math teaching. Standards drive curriculums so reading data that was collected by real teachers gives true insight into what actually happens in the classroom. Some of the information in this article could also give me some ideas when creating my surveys for the primary team about the math instruction/groups in their classrooms.


I chose this text because of the varying sections within it. The book covers subject content issues, pedagogical issues, assessment issues, etc. The section on intervention issues has an article about interventions in numeracy: individualized approaches. I think this is a good source because it gives insight into different programs that have helped in certain aspects of math concepts that can be difficult for students.


This text was my math book from my methods class in the fall. It has a lot of great information including possible activity ideas and strategies for varying curriculum from grades K-6. It has a section about flexible grouping and the different skills that can develop socially for students. I think this could be helpful in my analysis and data collection.
Appendix C: Math Interest Survey

Name ________________________________     Date ____________________

Math Survey #1

**Directions:** Miss MacDonald will read you the sentences listed below. Listen carefully and circle yes, no or sometimes as your answer. Remember, Miss MacDonald wants to know how you feel, so there is no right or wrong answer.

1. I like to work by myself during math.
   
   YES          SOMETIMES          NO

2. I like to work with others during math.
   
   YES          SOMETIMES          NO

3. Sometimes it is hard for me to concentrate when I work in a group.
   
   YES          SOMETIMES          NO

4. I like to use the computer to practice math strategies.
   
   YES          SOMETIMES          NO

5. I like when the whole class sits together to work and have a discussion about math.
   
   YES          SOMETIMES          NO
## Appendix D: Grouping Rubric

<table>
<thead>
<tr>
<th>Level 1 Performance</th>
<th>Level 2 Performance</th>
<th>Level 3 Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ Off-task most of the session</td>
<td>_____ On-task most of the session</td>
<td>_____ On task for the full session</td>
</tr>
<tr>
<td>_____ # of reminders (4 and above)</td>
<td>_____ # of reminders (3-4)</td>
<td>_____ # of reminders (0-2)</td>
</tr>
<tr>
<td>_____ Behavior with partner needed teacher intervention, lack of taking turns and no sharing of materials. Did not encourage each other’s mathematical thinking</td>
<td>_____ Behavior with partner was average, needing little teacher intervention. Sometimes encouraged each other’s mathematical thinking.</td>
<td>_____ Behavior with partner was above average. Assisted each other with no teacher intervention. Consistently encouraged each other’s mathematical thinking</td>
</tr>
<tr>
<td>_____ Did not complete assignment</td>
<td>_____ Almost completed assignment</td>
<td>_____ Fully completed assignment</td>
</tr>
<tr>
<td>_____ Did not follow teacher directions (clean-up, where to go, etc)</td>
<td>_____ Sometimes followed directions (clean-up, where to go, etc)</td>
<td>_____ Consistently followed directions (clean-up, where to go, etc)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 1 Performance</th>
<th>Level 2 Performance</th>
<th>Level 3 Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>This performance level constitutes an unsuccessful partnership. Work was incomplete, behavior was mainly off task and little academic success occurred.</td>
<td>This performance level constitutes a successful partnership. Work is complete, and a few reminders were given to stay on task. Behavior in terms of taking turns and assisting each other is evident.</td>
<td>This performance level constitutes a highly successful partnership.</td>
</tr>
</tbody>
</table>

Date: _________________________

Names of students:
_________________________________________________________________________________________________

Observation Notes:
_________________________________________________________________________________________________
_________________________________________________________________________________________________
_________________________________________________________________________________________________
_________________________________________________________________________________________________
_________________________________________________________________________________________________
_________________________________________________________________________________________________
Appendix E: Exit Slips

Name: ___________________________  Date: ___________________

Exit Slip

1. Today my partner was:

2. This partner was a smart choice.  YES  NO

3. My partner and I did this well:

4. My partner and I need to work on:
Exit Slip

1. Today my partner was:

2. My partner and I cooperated. YES NO

3. My partner and I did this well:

4. My partner and I need to work on:
Appendix F: Follow Up Interview Script

Miss MacDonald: “You took this math survey way, way back. Now I see here where it says, I like to work by myself during math. You checked yes. Do you still feel that way?”

Student 1: “Yes.”

Miss MacDonald: “How come?”

Student 1: “A lot of times the people that I work with they talk to me.”

Miss MacDonald: “Does that distract you?”

Student 1: “Yes.”

Miss MacDonald: “Do you get most of your work done if you work by yourself?”

Student 1: “Yes.”

Miss MacDonald: “You don’t like to work with others?”

Student 1: “Sometimes.”

Miss MacDonald: “When is it hard to work with a partner?”

Student 1: “When we do equations.”

Miss MacDonald: What makes the best math lesson?

Student 1: “Sitting in your seat, separating the desks and really quiet.”

Miss MacDonald: “I noticed that number 3, it says sometimes it is hard for me to concentrate in a group. Do you still feel that way?

Student 2: “No.”

Miss MacDonald: “What makes it different?”

Student 2: “It’s hard to say. Some people act like they’re really crazy and so nobody can concentrate.”

Miss MacDonald: “The next question says, I like when the whole class works together on the carpet. You circled no, do you still feel that way?”

Student 2: “No, I do like working on the carpet. Sometimes you ask us to raise our hands and be a math partner or something and that’s why I like it.”

Miss MacDonald: “How do you like working with partners?”
Student 2: “It’s ok.”

Miss MacDonald: “What makes a good partner for math?”

Student 2: “My best friends in the class make great partners because we’re already good friends.”

_________________________________________________________________________________________________

Miss MacDonald: You marked you don’t like working on the carpet in a whole group. Do you still feel that way? Can you tell me why?”

Student 3: “Because people bug me.”

Miss MacDonald: “Is there ever a time you like working on the carpet?”

Student 3: “When we play games.”

Miss MacDonald: “What do you like about having partners in math?”

Student 3: “We cooperate.”

_________________________________________________________________________________________________

Miss MacDonald: You said on your survey, that you do not like to work with others. Do you still feel that way?

Student 4: “When I’m working with others they talk to much and I need to get my work done.”

Miss MacDonald: “Do you like working with partners?”

Student 4: “Yes.”

Miss MacDonald: “What makes a good partner?”

Student 4: “To be quiet when the person is trying to tell you an idea.”

Miss MacDonald: “Who do you like to most work with during math?”

Student 4: “-----because I’ve been working with her for a long time.”

Miss MacDonald: “Do you think it would be good to have the same partner in math everyday?”

Student 4: “Yes.”

_________________________________________________________________________________________________

Miss MacDonald: “I noticed that you marked you don’t like to work on the carpet. Do you still feel that way?”
Student 5: “Yep I still feel that way because I can’t sit on the carpet. It feels boring and it hurts your legs. Then you feel like you want to be on your knees but the teacher tells you to sit.”

Miss MacDonald: “So it’s hard to sit criss-cross applesauce?”

Student 5: Actually, it’s called Indian style.

Miss MacDonald: “I noticed you said you like to work by yourself. Do you still feel that way?”

Student 5: “Yes. If other people don’t know what to do they make up these weird things start telling you this stuff and they’re practically wrong.”

Miss MacDonald: “Do you think if you’re working with your partner and they do it one way you get confused?”

Student 5: “Yes.”

Miss MacDonald: “I noticed that you said you like to work with a partner during math, do you still feel that way?”

Student 6: “Because I like to work with somebody else because its so hard.”

Miss MacDonald: “When you work with others do they help you understand the math better?”

Student 6: “Yes.”

Miss MacDonald: “What makes a good partner?”

Student 6: “Somebody that doesn’t distract you.”

Miss MacDonald: “What makes it hard to concentrate sometimes?”

Student 6: “Without a partner.”

Miss MacDonald: “So its hard to work in math by yourself?”

Student 6: “Yes.”
## Day 1

#### Level 1 Performance
- Off-task most of the session
- # of reminders (4 and above)
- Behavior with partner needed teacher intervention, lack of taking turns and no sharing of materials. Did not encourage each other’s mathematical thinking.
- Did not complete assignment
- Did not follow teacher directions (clean-up, where to go, etc.)

#### Level 2 Performance
- On-task most of the session
- # of reminders (3-4)
- Behavior with partner was average, needing little teacher intervention. Sometimes encouraged each other’s mathematical thinking.
- Almost completed assignment
- Sometimes followed directions (clean-up, where to go, etc.)

#### Level 3 Performance
- On task for the full session
- # of reminders (0-2)
- Behavior with partner was above average. Assisted each other with no teacher intervention. Consistently encouraged each other’s mathematical thinking.
- Fully completed assignment
- Consistently followed directions (clean-up, where to go, etc.)

#### Level 4 Performance
This performance level constitutes an unsuccessful partnership. Work was incomplete, behavior was mainly off task and little academic success occurred.

#### Level 5 Performance
This performance level constitutes a successful partnership. Work is complete, and a few reminders were given to stay on task. Behavior in terms of taking turns and assisting each other is evident.

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**Names of students:**

**Observation Notes:**
- Writing equations
  - Got stuck quickly
  - Restarted before other group
- Followed directions
  - Followed directions

**Date:** 4/6
<table>
<thead>
<tr>
<th>Level 1 Performance</th>
<th>Level 2 Performance</th>
<th>Level 3 Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-task most of the session</td>
<td>On-task most of the session</td>
<td>On task for the full session</td>
</tr>
<tr>
<td># of reminders (4 and above)</td>
<td># of reminders (3-4)</td>
<td># of reminders (0-2)</td>
</tr>
<tr>
<td>Behavior with partner needed teacher intervention, lack of taking turns and no sharing of materials. Did not encourage each other's mathematical thinking.</td>
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<td>Behavior with partner was above average. Assisted each other with no teacher intervention. Consistently encouraged each other's mathematical thinking.</td>
</tr>
<tr>
<td>Did not complete assignment</td>
<td>Almost completed assignment</td>
<td>Fully completed assignment</td>
</tr>
<tr>
<td>Did not follow teacher directions (clean-up, where to go, etc.)</td>
<td>Sometimes followed directions (clean-up, where to go, etc.)</td>
<td>Consistently followed directions (clean-up, where to go, etc.)</td>
</tr>
</tbody>
</table>

Level 1 Performance:
This performance level constitutes an unsuccessful partnership. Work was incomplete, behavior was mainly off task and little academic success occurred.

Level 2 Performance:
This performance level constitutes a successful partnership. Work is complete, and a few reminders were given to stay on task. Behavior in terms of taking turns and assisting each other is evident.

Level 3 Performance:
This performance level constitutes a highly successful partnership.

Names of students:

Observation Notes:

Constant reminders need help to decide who
1. Today my partner was: [Blank]

2. Today, my partner and I cooperated. [YES] [NO]

3. My partner and I did this well: [Clean up not fire]

4. My partner and I need to work on: [Blank]
Exit Slip

1. Today my partner was:

2. Today, my partner and I cooperated. **YES** **NO**

3. My partner and I did this well: get throoo a game helping kleen up.

4. My partner and I need to work on: