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TE 804 – Inquiry Project Plan & Final Report
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Inquiry Project Plan

Problem: Some students dominate small group work while other students participate very little.

Question: What steps can I take to overcome the problem of some students dominating small group work to ensure that all students participate equally during science activities?

Problematic Features

In my ideal classroom, I envision a learning community in which all students contribute equally to group activities. Not only do I believe that every student carries a backpack of prior knowledge and experiences to share with their peers, but I also recognize that children must have an opportunity to actively participate in order to truly grasp the related content. The structure of science instruction in my classroom is heavily based on small group work. Students work in groups of four or five to complete experiments and investigations, collect data, and discuss their thoughts about scientific ideas. Assuming all children participate equally, this method of instruction has the potential to be very effective, as students benefit from hearing their peers' ideas and have opportunities to learn in a hands-on, minds-on approach. Unfortunately, in my classroom, **some students tend to dominate this small group work while other students participate very little, meaning the children are missing out on many of the benefits of conducting investigations in small groups.**

I have seen examples of this problematic behavior throughout the year. One student in particular has a particularly domineering personality. During group work, she immediately takes charge and generally completes all of the hands-on steps of the activity. If other students participate, it is because she has told them specifically what they may do to help. The rest of her group members are not given an opportunity to decide how their group progresses through the activity. The control that some children have over the rest of their group is significant enough that on a few occasions, more timid students end up in tears after being left out during group work time. Many times, I have watched students simply copy data into their notebooks without

understanding where the data comes from. In the worst case scenarios, some students do not even take these steps, and simply sit at their desks while their group works around them.

To me, this behavior represents a greater underlying problem. Students who tend to dominate discussion do not realize the importance of equitable participation. It is possible that they do not feel that all of their peers have something to offer to the discussion or activity, and it appears that they have not yet developed a respect for everyone's right to participate. On the other hand, students who take a backseat during small group work may lack the confidence to share their ideas and express their desire to get involved. **As an educator, I want to know what steps I can take to overcome the problem of some students dominating small group work to ensure that all students participate equally during science activities.**

Planned Intervention Strategies

In order to address this issue in my classroom, I plan to assign specific roles to each student in the group – a facilitator, a materials manager, a time-keeper, a questioner, and an “includer”. Research states that in order “to create equal exchange you will need a true group task where no one person could easily do the task alone” (Cohen, 64). Assigning roles achieves this goal because the activity is structured so that students are forced to use their group members as resources to work towards a common goal (*Teachers Development Group, 29*). When each student begins the activity knowing that they have specific responsibilities to their group and that their role is vital to completion of the task, I believe they will be more prepared to meet these expectations. I have used a similar strategy during math instruction with positive results, and I therefore expect similar findings with science small group work. Because my students are familiar with having a role within their group, it is my hope that they will adjust quickly and begin to participate in activities more equitably.

I plan to accompany my introduction of assigned roles during science group work with multiple discussions about responsibilities to groups, how and why we should help others learn, and the importance of maintaining roles. By talking about these ideas, I hope to foster a sense of

respect and responsibility for group members so some of the underlying issues behind this problematic behavior are addressed. In order to develop the type of classroom community that I envision, I must constantly talk about these ideas so students realize not only that I value group responsibility and respect, but also understand why a fair, trusting and comfortable environment should be a personal priority to them as well.

To assess the effectiveness of these planned interventions, I will collect evidence throughout the duration of my unit. This evidence will be in the form of ongoing observational notes of who participates and who does not participate during each lesson, and the specific contributions that are made. My observational notes will include information about the student's assigned role within their group, and how well they fulfilled the specific duties of this role. In order to make data collection easier, I will use a checklist log with space for brief observational notes as I monitor students during small-group work time (*See below*). This log can also be filled out by my CT or other observers of my lessons. I also plan to occasionally conduct informal interviews with both students who typically do not participate in small groups and students who typically dominate small groups. During these interviews, I will ask questions about their patterns of interaction and feelings towards working in small groups. I will then use this information about students' interactions with each other and their specific contributions to their groups to measure their progress. By comparing this formal documentation with my prior experiences in the classroom, I will be able to evaluate the effect that assigning roles and leading class discussions about respect and responsibility has on promoting equitable participation during small-group science activities.

Group	Role					+/-	Notes
	F	M	T	I	Q		
Group 1							
Anna							
Rachel							
Charlie							
Natalie							
Tyler Ba.							
Group 2							
Rex							
Megan							
Zach							
Jessica							
Group 3							
Danielle							
Michael							
Tyler Bo.							
Amanda							
Nara							
Group 4							
Austin							
Kaitlin							
Mark							
Kati							
Group 5							
Marissa							
Jaikishan							
Curt							
Br'Shawn							
Connor							
Group 6							
Darby							
Nathan							
Atticus							
Mera							

Notes:

In the “Role” column, the role that each student holds on a particular day will be checked.

F = Facilitator

M = Materials Manager

I = Includer

T = Time Keeper

Q = Questioner

In the “+/-“ column, a “+” indicates that the student fulfilled the duties of their role, and a “-” indicates that they did not.

Interesting interactions and details of why and how particular students did or did not fulfill their roles will be recorded in the “Notes” column.

Final Report

Analysis of Progress

As I implemented my planned intervention, I noticed major differences in my classroom learning community. Overall, students treated each other with greater respect and seemed to place an emphasis on including others in their group work. I also had to deal with fewer complaints and conflicts between students than I have had to in the past – as I monitored groups while they worked, much less of my time was devoted to addressing issues between group members, which in turn gave me more opportunities to discuss relevant scientific information with students. All of these factors contributed to what I feel was a much more positive learning community.

Because students were assigned specific roles, it seemed that they felt they had a duty within their group. Not only that, but the children were very eager to fulfill this duty. Many times, I witnessed students using their role card to transition into actively participating within their group. For example, at one point, a group was having difficulty with a task and wanted my assistance. When I visited their group, a student who is usually extremely timid announced to the rest of her group, “Let me explain – I’m the questioner.” On another occasion, I was having a conversation with a student who typically takes a backseat during group activities. I pointed out that I noticed he was more involved in group work than usual. He replied, “Yeah, it’s easy. I know how I can help.” These experiences show that the role cards gave many children who normally would not have stood up for themselves if they were being overlooked within their group the confidence to get involved. They knew that every person in their group had a specific job, and that every person in their group also knew the expectations of each job. Therefore, the fear of being told that they were “not allowed” to do something was no longer an issue.

Overall, the group dynamics were more positive. I watched individuals taking turns, offering ideas, and encouraging each other. Students used language like, “Who is responsible for *(given task)*”. Rather than automatically taking over, children who typically dominated groups

took on a new type of leadership as they gave their peers a chance to fulfill their role. It also seemed to me that having assigned roles made students more comfortable intervening with group members when it was necessary. Several times, I saw the role cards being used as visual cues. For example, I observed one boy remind his group, “Please use your time wisely,” as he waved his card in the air. Another time, a student slid her Materials Manager card onto a group member’s desk and asked, “Are you using materials responsibly?” These instances show that the role cards helped maintain a sense of order within groups, as students were able to use them not only to monitor their own involvement in the group, but to remind others of their responsibilities.

I believe the fact that students were able to use their assigned roles in such a responsible manner was because I took steps to introduce appropriate ways of speaking to each other. I began each day with a brief discussion of roles, teamwork, and responsibilities to groups. This ongoing dialogue about the importance of equal participation kept these issues at the forefront of students’ minds, and therefore, many of their actions contributed to attaining this goal.

While most students showed positive steps towards achieving equal participation, some students still occasionally struggled to work in groups. A few times, small arguments broke out over fairness – groups were striving to have everyone involved, but in the process, they fought about how to achieve this equality. I feel that this illustrates an aspect of my intervention that needs further development. Classroom interactions showed that our brief discussions about teamwork and roles impacted many students; however I would have liked to expand upon these discussions of respect and responsibility to better influence *all* students. Time was a factor here – I had very little time to get through the science content, let alone integrate ideas of a positive learning community into my lessons. As a result, the underlying beliefs and opinions that caused issues of unequal participation in groups may not have been fully addressed. In order to arrive at a point where students truly desire equal participation because they care about their peers and they want everyone to succeed, these conversations must be integrated throughout the school

day, not just for a few minutes at the beginning of science class. Only then will these important points become meaningful to students.

Discussion of Results and Implications of Learning Community Inquiry Project

I believe that this learning community intervention was a positive one. The benefits are clear – students participated more, had more positive feelings about science group work, and as a result, I believe, had more opportunities to focus on the scientific knowledge to be gained from their group experiments and activities. To me, the ultimate sign of the success of this program was that students began to adopt the roles as a class norm. During one class, students spent the day planning experiments to test the strength of an electromagnet. Because this was a day for students to plan and discuss rather than a hands-on experiment, I did not assign roles. Yet out of the six groups, four of them took it upon themselves to assign roles to each group member. Clearly, the students were comfortable with the idea of roles, and even without my guidance, they saw the benefits of giving a specific job to each group member. This observation provides a glimpse at the positive group interactions that can occur in a classroom where assigned roles are used continually throughout the year in all subject areas.

I believe that the way I introduced the idea of roles contributed to the success I saw – I emphasized that I cared about students and that it was important to me that everyone is treated fairly in my classroom. I gave students an opportunity to talk about why it was important to them that people are treated fairly, and what sorts of things people miss out on if they do not participate. Most importantly, I emphasized through discussion that it is the responsibility of both individuals and group members to ensure that everyone participates. The success of this intervention was also due to the fact that it was developmentally appropriate. My fifth grade students are at a point that they can begin to handle more independence in group situations. They enjoy feeling important and having individual responsibilities. Therefore, the role cards fit into their desires for group interactions. My students are also at an age where fairness is extremely

important. By addressing this concern through class discussion, the issue became relevant to most students, and they were better prepared to act in ways that promoted equal participation.

In recognizing these reasons for the successes that I saw, I also see some weaknesses of my planned intervention. While most children were affected by the intervention, some students still struggled to interact in positive ways that contributed to equal participation. I believe that this is because I needed to devote even more time to discussion related to roles and responsibilities in groups. Initially, the structure of group work with role cards was not natural to many students – in fact, in many ways, it went directly against the way small group activities have functioned in the past. In order to better support students who found this format to be a challenge, my intervention should have included more ongoing discussions of teamwork and expectations related to assigned roles so students would have more opportunities to connect with and contemplate these ideas.

After completing this inquiry project, I am now aware that I definitely want to use role cards in my future classroom. I can see that with time, they will become natural to students and they truly give children a sense of meaning within their group. However, this intervention has also shown me that I will implement role cards a bit differently in the future – I will introduce roles at the beginning of the year, through routine tasks and in all subject areas, so students can gradually become familiar with the concept. I feel that it may have been very ambitious of me to first introduce roles during a science unit that involves complicated ideas and concepts. Easing into the idea of holding specific jobs within teams and accompanying this with continual discussions about the type of caring, inclusive classroom we desire would help students develop a genuine concern for how they personally can help achieve equal participation in groups. I now know that learning to fulfill roles and work effectively in groups is an ongoing process for students. As an educator, I now feel better prepared to constantly assess students' reactions to and struggles with group work, and in turn, ensure equal participation for all.

Works Cited

Cohen, Elizabeth G. *Designing Groupwork, Second Edition*. New York: Teachers College Press, 1994.

Teachers Development Group. *Principles of Complex Instruction*. Teachers Development Group, 2005.