

INCLUDING PARENTS IN CLASSROOM SCIENCE NIGHTS

by

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## ABSTRACT

The purpose of this study was to engage parents within the classroom in order to minimize any discomfort parents feel when at or communicating with the school and staff. In order to do this, parents were invited to attend monthly classroom science nights with their families. Each night, a science expert presented to the families and followed the presentation up with some sort of hands-on learning experience. Parents as well as children were encouraged to participate in this treatment, and the resulting environment was informal. As more parents began to participate and word began to spread, I was approached by far more parents than ever before in my career, asking about the next science night. Parents seemed quite at ease when talking to me, and several still seek me out even after the treatment to say hello at school functions. I was able to determine that science nights do help contribute to parent comfort at school by comparing responses to several attitude survey questions from before the treatment to responses after. Most parents changed their answers to the survey item, "The school and staff are easy to talk to and knowledgeable regarding science," from neutral or agree on the pre-treatment survey to agree and strongly agree on the post-treatment survey. The key words in this survey item are "easy to talk to." If I have become easier to talk to as a teacher, the purpose of this study has been fulfilled.

## INTRODUCTION AND BACKGROUND

I have 24 students in my second grade class at K William Harvey School in Ronan, Montana. In all, K. William Harvey serves over 350 students, 64% of whom are enrolled as members of the Salish, Kootenai, Blackfeet, and other tribes. Sixty-five percent of students currently qualify for free and reduced school meals ([www.greatschools.org](http://www.greatschools.org), January 4, 2012). Ronan is a rural agricultural community of about 2,000 people, situated on the Flathead Indian Reservation. The tribal headquarters are located in Pablo, Montana, about five miles north of Ronan. Tribally operated Salish Kootenai College is also located in Pablo, and the resulting influx of tribal college students from many reservations brings a great mix of tribal elementary students.

My classroom is structured so that students are expected to respect each other and encourage each other to share and communicate, regardless of cultural backgrounds. This year my group of students consists of fairly average achievers, with several high and two very low. The majority of parents in the group have access to internet and phone lines, so I am able to communicate with them often if needed. However, I only actually see and have contact with four students' parents on a regular basis. The other 19 students' parents only come in for parent/teacher conferences in October and the Christmas concert in December. I decided to open the doors of communication by inviting the parents into my classroom on a regular basis. I wanted to improve parent and student attitudes toward school and science within my class, as well as positive communications between myself and classroom parents. In the past, I have mostly tried parent phone calls and letters home in order to communicate with my

students' families. Phone calls often go unanswered, and letters are often misplaced before arriving home. I needed to find a more interactive method of communication to increase positive attitudes toward school, and science in particular.

For the last two years, K. William Harvey elementary has hosted a Family Science Night, open to all families in the school. This science night happens once annually and garners turnouts of over well over 300 participants. The success of this once-per-year event got me thinking. I wanted to increase both interest in science careers as well as parent communication. What better way than to take such a successful event and apply it to my own classroom? I based my research project on the following questions:

Will increased parental involvement at school result in increased perceived value of school and science at home? Will student attitudes and ambitions toward school and science improve as families become more involved?

## CONCEPTUAL FRAMEWORK

Parental involvement during students' education has been found to be a key factor in many desirable areas, such as achievement, attendance, behavior, and post-secondary education plans (Henderson & Mapp, 2002). Parent-initiated actions, such as talking at home, encouraging good work at school, helping plan for higher education, and maintaining focus on homework have been associated with higher student achievement and are being focused on more explicitly by schools in the northwestern region of the United States (Henderson & Mapp, 2002; Speth, Saifer, & Forehand, 2008). To



maximize benefits, educators are starting to include more opportunities for parental involvement within their classrooms and in school events.

So crucial is parental involvement that the No Child Left Behind (NCLB) Act of 2001 refers to parental involvement over 300 times, most notably in sections 1116 and 1118. These sections are devoted to including parents in two-way, meaningful communication regarding students' progress, learning, and activities, to involve parents in "effective" ways (although the word "effective" is not clearly defined), and to involve parents in district decisions (Speth, Saifer, & Forehand, 2008).

A key strategy used by educators to increase parental involvement is teacher outreach and communication. Hand in hand, outreach and parental input and involvement have been associated with increased academic achievement (Speth, Saifer, & Forehand, 2008; NSTA, 2009). Contrary to the obvious benefits of contacting parents regularly, less than 4% of teaching programs in the United States employ effective training for new teachers to utilize when contacting parents. Perhaps this is in part why many teachers taking national polls report they are intimidated by the thought of contacting parents regarding a student's performance (Flynn, 2006). As teachers increase the amount of contact they share with parents, some parental misconceptions about teachers and teaching can be dispelled. Some misconceptions include parental feelings of low importance in their children's lives, intimidation by school and school officials, belief that teachers don't care about their children as much as simply teaching factual matter, and the feeling that they don't have the necessary skills or education to help their children, especially in the realm of science (Flynn, 2006). If educators can overcome their trepidations regarding parental contact and increase the amount of time that parents

spend involved in their children's learning, the benefits of breaking those misconceptions could outweigh any time or effort concessions on either party's part. Any and all levels of parental support and involvement have been found to have positive effects (Gooden, 2003).

Just as having parents actively involved in their child's learning has been found to be a positive factor in education, a lack of involvement on parents' parts has been linked to major obstacles in improving learning (Speth, Saifer, & Forehand, 2008). The two key sections in NCLB act call for strong parental involvement for that very reason. Parent behavior at home, like speaking openly about the school, district, or employees, either positively or negatively, has been strongly linked to academic success or the lack thereof (Flynn, 2006). Therefore, it is crucial to build a strong alliance between parents and teachers. This can be done in a number of ways, including nonacademic communication, at-school engagements, positive calls regarding academic performance, family science nights and other extracurricular activities (Flynn, 2006; Henderson & Mapp, 2002; NSTA, 2009; Speth, Saifer, & Forehand, 2008).

Building a community of learners that includes parents encourages all parties to learn together, promoting better attitudes toward school and learning at home, as well as at school. Active learners feel empowered as they progress through activities and inquiries, especially during family science nights (Sullivan & Hatton, 2011). Asking the family to join the student in learning can encourage a more comfortable environment, which can then begin to break down some of the misconceptions about science that may be held by some parents. Parents often feel that science is often sets of isolated facts that must be memorized, and have few real-life applications (Gooden, 2003; Sullivan &

Hatton, 2011). Exposing parents to as many different areas of science careers and options may help dispel this misconception, improving parental attitudes regarding science possibilities in their students' futures. Many students change their points of view and shift their thinking from viewing science as a hard, complicated subject to viewing science as fun and applicable (Gooden, 2003). Part of being a member of a community is the feeling of being valued, and feeling important to other members of the community. Family-centered events taking place in the classroom bring parents, teachers, and students together within a small community, with each member feeling valued and important (Gooden, 2003). This feeling of importance is a key component in breaking down perceived barriers between students, teachers, and family members (Flynn, 2006).

As students see their parents involved and engaged in learning and setting positive examples as involved role models, students become more engaged in their own learning (Gooden, 2003). Parents can set positive examples at home, in addition to in the classroom. Being informed of what is going on in and out of school, staying in contact with teachers and administrators, and delving into new topics and activities at home will imply that the parent is an advocate of learning, as well as of local educational policies and strategies (NSTA, 2009). Two-way communication between teachers and parents is vital in this effort. Open houses, available curriculum, science expectations and standards that are easily read and found are efficient ways to keep parents informed (Rose, 2004).

Parental involvement alone cannot solve student engagement and performance problems. In addition to parents modeling positive learning examples and high levels of parent-teacher communication, teachers must take initiative to become more active and

up to date with pedagogy and teaching tools (Henderson & Mapp, 2002). Engaged families can certainly help boost academic achievement, but students still spend hours per day observing teacher behavior, and a lack of interest or energy on the teacher's part is easily perceived and serves to lower student interest at school (Henderson & Mapp, 2002). In order to firmly boost student interest and achievement, a combination of these two strategies must be employed.

Utilizing teacher outreach, teacher pedagogy training, and family programs as effective strategies, schools have been able narrow achievement gaps between middle-class and low-income students, engage learners more completely, and help students plan for higher education (Henderson & Mapp, 2002). This combination of teacher and parent approaches can promote a community of active learners within school as well as at home. Teachers gain active parent advocates when they communicate regularly, ask for parental input, and include parents in stages of projects and planning (NSTA, 2009; Rose, 2004). Continued teacher training and professional development will further the benefits already in place with school-parent alliances. "School, family, and community partnerships can boost attendance and increase achievement slightly, but excellent classroom teaching will be needed to dramatically improve students' ...skills" (Henderson & Mapp, 2002, p. 4).

As required by NCLB, schools are expected to involve parents in many different forms of active participation. Parents are to be communicated with regularly in an easily understood manner regarding their students' performances at school. However, it has been found that strictly academic communications are not as effective as more frequent, non-curricular communication (Speth, Saifer, & Forehand, 2008) in combination with family-oriented extracurricular programs such as science nights (Sullivan & Hatton,

2011). The more actively parents are involved in the lives and learning of their children, the more beneficial their involvement will be (Gooden, 2003; Henderson & Mapp, 2002; Sullivan & Hatton, 2011). Any one of the three strategies discussed above cannot improve student achievement alone. There must be a synthesis of the three, and a balance must be reached. Teacher outreach and communication sparks active parental involvement and input, which in turn places demands upon educators to continue professional development activities and training (Speth, Saifer, & Forehand, 2008). As parents become more informed about what their school district is achieving and what is happening in the classroom, they become more involved in the planning processes and curricular design. Parents become empowered partners of schools and teachers, and begin monitoring their students' progress at home, discussing post-secondary plans more openly, and placing more value on the school that is including them as a valued member of its community (Gooden, 2003; Henderson & Mapp, 2002; NSTA, 2009; Speth, Saifer, & Forehand, 2008).

## METHODOLOGY

As I have progressed through reviewing research, I found a strong link between parental involvement and student achievement. In our area, very few parents actually visit the school for any reason other than disciplinary review. In this study, I wanted to see how mini science nights including the whole family at school, might increase parental communication, involvement, and emphasis on schooling. The research methodology for this project received an exemption by Montana State University's Institutional Review Board and compliance for working with human subjects was maintained.

Over the course of four months, science nights with hands-on explorations were hosted in my classroom. All of my students and their parents were invited to attend and participate. A series of local experts presented a topic and helped lead an exploration on each night, culminating in a challenge to finish the exploration at home with the family. Parent and student interviews were conducted before starting the treatment and post treatment.

I chose to use pre-treatment student and parent interviews to get a feel for how often teachers communicate with parents, how often parents feel that they are welcome at the school, and how often school is talked about in the home. I chose to send the Lozar Home Questionnaire (Appendix A) home for all parents to complete. Most of the parents in my classroom work outside of the home and are hard pressed to find large amounts of time during the day for answering questions. I decided a questionnaire would be easiest for parents, with a follow-up phone call to clarify if necessary. All parents were asked to complete the questionnaire. Out of the 20 I sent, 18 Lozar Home Questionnaires were completed and returned. I first thought to only send questionnaires to more “highly involved” parents, as I was more certain of receiving completed forms from those parents. Then I decided that all parents should have equal voice in planning and contributing ideas for science nights. An overarching goal of this research project is to make parents more comfortable in my classroom and feel equally valued as partners in students’ education. Therefore, all parents were invited to fill out questionnaires and contribute to the development of science nights.

Since I had easier access to my students, I chose to gather information from them through individual Lozar Student Interviews (Appendix B) of select students. I sat with

each student for about five minutes during independent reading time and asked questions directly, taking notes as students answered. When planning which students to interview, I selected students ranging from high to low achievement, and whose parents I deemed ranging from highly to barely involved in their students' education. I was surprised to find from student interviews that even "highly involved" parents didn't tend to discuss post-secondary plans with their students, nor did they exhibit interest in daily classroom occurrences. As this trend became clearer, I decided that science nights in the classroom should be all-inclusive, emphasizing the value of education and encouraging open discussion about the future at home.

Results from these two assessments helped to determine the types of activities for classroom science nights, as well as how often they would occur. I looked at questionnaire results to estimate how many parents would be willing to attend science nights offered in my classroom, as well as how many would be able to work on projects at home afterward. I looked at student interview results to determine how many students experience post-secondary planning or discussion at home, as well as to determine what kinds of activities students would be interested in participating in at science nights.

In addition to pre-project questionnaires and student interviews, I administered pre-project and post-project Lozar Parent Attitude Surveys (Appendix C) to all parents and an additional pre-project and post-project Lozar Student Attitude Survey (Appendix D) to all students. The parent surveys asked parents to assess their attitudes toward their students' education and involvement in the school before and after the course of science nights. The student surveys asked students to assess their attitudes about science and post-secondary school plans before and after the course of science nights. Data from

these interviews and surveys were utilized for future science night plans, and to present to peers to further develop programs designed to increase parental involvement and overall comfort level in our schools, as shown in the Data Triangulation Matrix (Table 1).

Table 1  
*Data Triangulation Matrix*

| Focus Question   | Research source 1                        | Research source 2                         | Research source 3                          |
|--|--|---|--|
| 1. Will increased parental involvement at school result in increased perceived value of school at home?    | Pre-project Lozar Parent Attitude Survey | Post-project Lozar Parent Attitude Survey |  |
| 2. Will student attitudes and ambitions toward school and science change as families become more involved? | Pre-project Lozar Student Interview      | Pre-project Lozar Student Attitude Survey | Post-project Lozar Student Attitude Survey |

The first step for this project consisted of collecting all the pre-treatment surveys and analyzing the data. I found that most families would be interested in participating in science nights, and that once per month would be a good rate of recurrence. I saw that most students enjoyed school, and most parents would feel comfortable attending science nights at the school after regular school hours. Most students indicated that they didn't discuss post-secondary plans with their parents, but were generally interested in science because it was "fun" (Lozar Student Attitude Survey, 2012). I designed my treatment based upon this information.

The treatment consisted of three classroom science nights. All parents and families of my students were invited, and I sent home several sets of reminders to be sure all parents were aware of the time and date. Each month, I contacted a local science



expert from a different scientific field to present. For example, our first science night expert covered some local animals' tracks, furs, and migratory patterns. Our second science night expert discussed invasive aquatic species, and our third expert discussed collaboration between our local college and NASA. Each science night included a brief social, when parents and experts could enjoy snacks and socialize. Then the expert would take 20 to 30 minutes to present their topic, followed by a 15 minute hands-on activity. The nights ended with a question and answer session, followed by brief voluntary clean up. We ended the program a week prior to the larger school-wide science night hosted by K. William Harvey Elementary staff and volunteers.

After the third classroom science night, I administered the post-treatment surveys to all parents and students. I sent the Lozar Parent Attitude Survey home with every student for their parents to fill in, and administered the Lozar Student Attitude Survey in class. I then collected the completed surveys and analyzed the results.

## DATA AND ANALYSIS

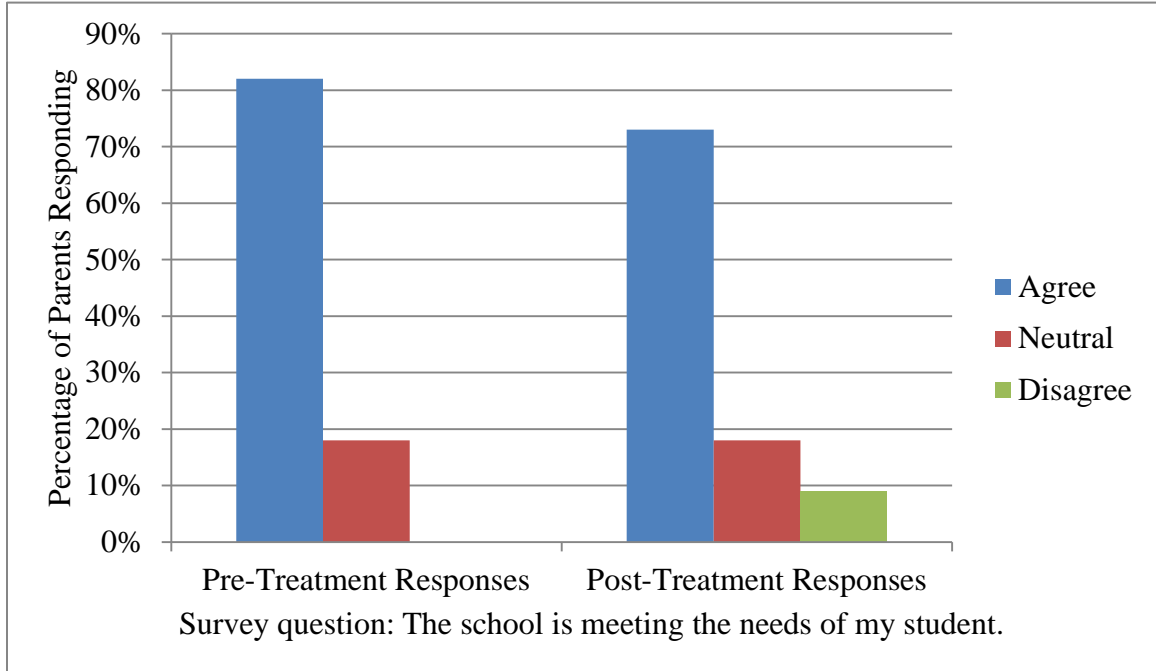
Data analyzed in this study included the pre-treatment responses to Lozar Parent Attitude Survey, Lozar Student Attitude Survey, and Lozar Home Questionnaire, as well as post-treatment responses to Lozar Parent Attitude Survey and post-treatment Lozar Student Attitude Survey. As responses from the Lozar Home Questionnaire were analyzed, science nights were planned and scheduled to fit parent requests and input.

The results from the pre Lozar Home Questionnaire indicated that 85% of the parents who responded were interested in attending a classroom science night and the majority (90%) would be willing to do so once a month ( $N=18$ ). Sixty-two percent of the

responding parents indicated that they felt no intimidation by the school or staff, 15% indicated that they sometimes felt intimidated, especially when content was new or unfamiliar, and only 8% indicated that intimidation was felt upon entering the school at any time. I wanted to use fun and entertaining science nights to decrease that latter percentage.

As pre and post-treatment parent and student attitude survey responses were compared, several themes emerged. Parent attitudes toward school and science instruction did not change as much as anticipated. According to the pre-treatment results, 27% of parents indicated they “strongly agreed” with the statement, “The school is meeting the needs of my student,” (Lozar Parent Attitude Survey). Fifty-five percent indicated they “agreed” with that statement, and only 18% marked “neutral.” Post-treatment responses to the same question garnered 36% that “strongly agreed,” 27% that “agreed,” 27% who felt “neutral” on the matter, and 9% that “disagreed” with the statement. The general responses to this question could be summarized by saying that 82% of parents responding to the pre-treatment statement agreed that the school meets the needs of their students, and only 73% agreed with the same statement on the post-treatment survey (Figure 1). The significance and possible causes of this slight drop in parent satisfaction with the school would require further investigation. For example, some factors affecting this may be that only four families were able to attend all three science nights, and a different amount of parents returned pre-project surveys than post-

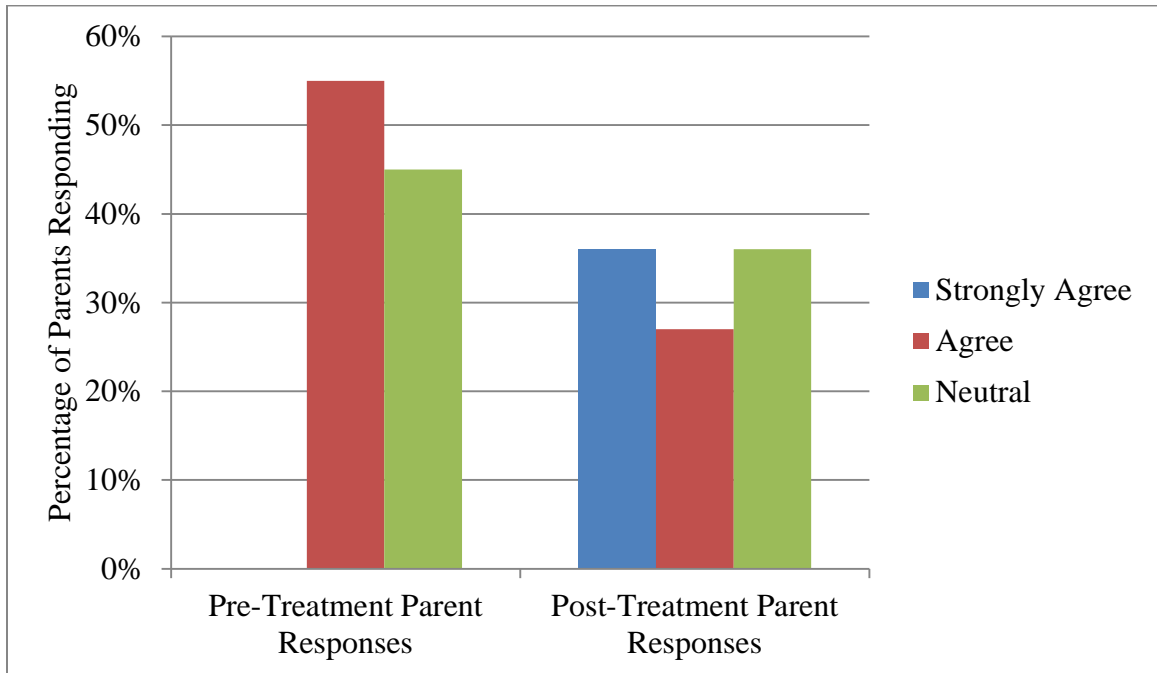
project surveys.



*Figure 1.* Parent responses on the Lozar Parent Attitude Survey to "The school is meeting the needs of my student," ( $N=13$  pre-treatment;  $N=11$  post-treatment).

Another theme that developed as data were analyzed was that more parents responded that they found school staff knowledgeable and easy to talk to regarding science after the science night treatment than had indicated before participating in science nights. When responding to the pre-treatment Lozar Parent Attitude Survey, 55% of parents agreed that they found school staff knowledgeable and easy to talk to regarding science, and 45% indicated they felt neutral in response to the statement. When responding to the post-treatment Lozar Parent Attitude Survey, 64% now agreed, with only 36% remaining neutral. Over half of the parents who agreed with this statement on the post-treatment survey marked "strongly agree," a marked change from the pre-treatment responses, 100% of which were simply marked "agree" (Figure 2). This theme shows a shift in parents' attitudes toward school staff from before experiencing science

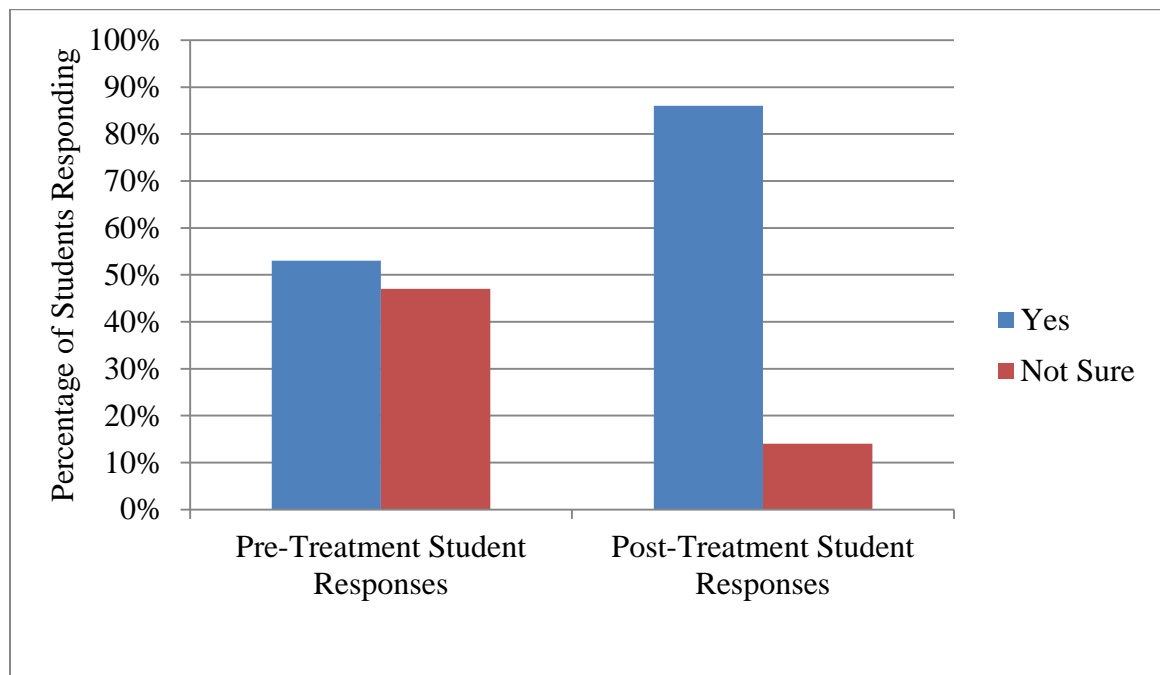
nights to after participating in one or two in the classroom. The neutral responses decreased, and the “strongly agree” responses increased, showing a more positive attitude toward the school and staff after attending science nights.



*Figure 2.* Parent responses on the Lozar Parent Attitude Survey to "The school and staff are knowledgeable and easy to talk to regarding science," ( $N=13$  pre;  $N=11$  post).

The final theme analyzed was the relationship between participating in science nights and discussing future school or career plans at home. According to parent responses to the statement “We encourage discussion about school and college at home,” the pre-treatment results were virtually identical to post-treatment responses, with 87% indicating that parents did encourage discussion about college and post-secondary planning and only 13% indicating they were neutral on the topic. However, student responses to the statement, “My family wants me to go to college someday,” changed

drastically from the pre-treatment Lozar Student Attitude Survey to the post-treatment survey. On the pre-treatment survey, 53% of students indicated that their parents did indeed want them to attend college someday and 47% were unsure of such expectations. By the end of the treatment, 86% of students responded that their parents did communicate the expectation that the student should attend college someday, and only 14% remained unsure of parental college expectations (Figure 3).



*Figure 3.* Student responses on the Lozar Student Attitude Survey to "My family wants me to go to college someday," ( $N=18$  Pre-Treatment;  $N=21$  Post-Treatment).

### INTERPRETATION AND CONCLUSION

The results of the data analyses were somewhat disappointing at first glance. As an educator, of course I hoped to see parents' attitudes regarding the staff and subject matter skyrocket in a positive manner, as well as students' attitudes toward school in

general, if not science particularly. Despite the obviously small data sample, I hoped to see more emphatic positive attitudes toward school and staff and science education.

As I looked at the results from pre-treatment survey responses to post-treatment survey responses, I was struck by the absence of positive growth in parental responses in general. I could see that responses to one or two questions shifted from “neutral” toward “agree” or even “strongly agree,” but the general lack of enthusiasm seemed very apparent on paper. The most disappointing trend to analyze was a very slight drop in opinion about the school meeting students’ needs. Parent responses to the Lozar Parent Attitude Survey item stating, “The school is meeting the needs of my student” actually showed a nine percent drop from pre-treatment responses to post-treatment responses. The drop in opinion was very slight, but it affected me. In an effort to explain this drop, I compared the pre and post surveys to see if the same parent had answered the question each time. I found several surveys had different styles of handwriting, leading me to believe that perhaps a mother had filled out the pre-treatment survey and a father had filled out the post-treatment survey or vice versa. I have no way of actually knowing what happened to cause the drop, but my hypothesis is that the select students whose parents adjusted their attitudes toward less confidence in the school had either had a better day when they handed their parents the pre-treatment survey, or have parents who have different opinions on how well the students are prepared for third grade.

I felt that I went out of my way to organize three classroom science nights, devoting hours to scheduling, hands-on activities, supply arrangements, and other necessities for each, and, initially, I almost took personal offense to the disappointing results on this post-treatment survey item. None of my science experts asked for any

compensation, and several of them put in quite a bit of work to make their presentation exceptional and educational for both parents and students, and it was sad to realize that the parents hadn't changed their opinions about the school in a more positive manner. It was a very interesting learning experience for me, and a very poignant moment. I realized I'd have to take the old saying to heart: "You can please some of the people all of the time, and all of the people some of the time...but you can't please all the people all the time." Perhaps I can't make all parents change their attitudes positively, but I can do my best and hope to reach a few, and those few are worth the effort. I don't plan to quit just because of a small disappointment.

I then discovered one important survey item on which parents had at last shifted more noticeably. The statement from the Lozar Parent Attitude Survey read, "The school and staff are knowledgeable and easy to talk to regarding science." At first, this one survey item out of twelve didn't seem significant, but it was the only item that showed remarkable change in attitude. Upon closer scrutiny, I realized the most important aspect of this survey item was "easy to talk to." The primary goal of this study was to welcome parents into my classroom in order to decrease perceived barriers between teacher and parents. As more parents marked "strongly agree" and "agree" on this survey item after participating in science nights, I realized I had accomplished that goal with many parents. The data indicated that I had become "easy to talk to" and much more approachable for these parents. I had taken away the intimidation some parents expressed feeling on the Lozar Home Questionnaire, and that in itself was something to celebrate. If that had been my only accomplishment, it would be enough for me to continue this classroom science program in upcoming years, and certainly enough for me to appoint myself "Classroom

Science Night spokesperson” in order to encourage other teachers to tackle the same goal in their own classrooms.

Another trend I found peculiar was that parent responses to the Lozar Parent Attitude Survey statement, “We encourage discussion about school and college at home,” remained exactly the same from pre-treatment surveys to post-treatment surveys. The only change in responses was that one parent moved from “agree” on the pre-treatment survey to “strongly agree” on the post-treatment survey. This strange inertness from pre to post-treatment responses piqued my curiosity, so I compared the parent responses to student responses to a very similar statement from the Lozar Student Attitude Survey, “My family wants me to go to college someday.” I found that students responded much differently than their parents had.

Just over half my students (55%) knew their parents wanted them to go to college when responding to the pre-treatment survey, and the remaining 45% were unsure about whether their families wanted them to attend college or not. By the conclusion of our science night treatment, that meager 55% responding “yes” had shifted noticeably to 86% responding “yes” to the statement, and only 14% remained unsure. This change in student attitude toward college discussion puzzled me, since I can’t observe directly what is being discussed by families at home or in settings outside of school. I would have liked to have known what exactly caused the shift in student awareness of college discussions. This significant shift in awareness of family expectations for post-secondary education may be attributed to more discussion at home after each science night, or perhaps to heightened student awareness of the significance of such discussions parents had claimed on both surveys to have already been taking place. Was it the fact that there



was simply more college-related discussion post-treatment going on at home that parents hadn't noticed or thought to report on their own post-treatment surveys? Was it the fact that, due to the fun and entertaining nature of our classroom science nights, students were simply noticing or taking a more active role in the discussions at home more often than they had before the treatment? Who was generating the increased discussions regarding college plans? Was it excited students returning home from studying NASA partnership projects, or was it the parents, energized after watching their student solving problems in the classroom with a group of peers and siblings? I don't know. These would be excellent points to study in the future as I plan my next course of classroom science nights.

#### VALUE

I fully intend to continue the tradition of hosting classroom science nights as I continue teaching. I greatly enjoyed getting to know the parents in a less formal environment, with no paperwork or report cards to worry about. I found several families who ended up planning their entire weekly schedule around which participating in science night. Several parents went out of their way to seek me out at other school functions to compliment the latest classroom science night, and give me input on scheduling the next one for which night would work best for their families. It was extremely gratifying for me to find that those parents truly seemed engaged, and they were very likely the few that marked "strongly agree" on many of the post-treatment survey items.

Those few parents who became truly invested in our classroom science nights are the ones that keep me in education, and keep me focused on furthering the accomplishment of my primary goal of breaking down the barriers that often exist between teachers and parents. As many of my mentors in the past have reminded me, you can't change them all. Just a few will do. I have found through this research project that those words are incredibly true. The Few are what keep educators teaching, passionate, and engaged. I am very much looking forward to my next series of classroom science nights, eagerly anticipating the friendships I hope to build with the next set of parents, as well as the looks of amazement on my students' faces when they experience a scientific breakthrough with not just peers, but family members participating in and witnessing their amazing moment.

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APPENDICES

APPENDIX A

LOZAR HOME QUESTIONNAIRE

APPENDIX A

Questions for parents:

1. Would you be interested in attending classroom science nights? How often could you attend?
2. Do you ever feel intimidated by the school? By schoolwork or subjects he or she talks about or brings home?
3. Do you have regular internet access at home? If not, is there a handy place to go for it?
4. Would you be willing to work on projects at home with your student after science nights?

APPENDIX B

LOZAR STUDENT INTERVIEW

APPENDIX B

Questions for students:

1. How often do you and your parents talk about school at home?
2. Do you parents talk about when you will go to college, and what you will study?
3. Do your parents seem excited to talk about school and college, or jobs you want to do?
4. Do you ever talk about trade schools, family businesses or other job opportunities?
5. What kinds of activities would you like to do with your parents on science nights?



APPENDIX C

LOZAR PARENT ATTITUDE SURVEY

APPENDIX C

**Parent attitude survey:** Please fill this out candidly (and anonymously) so Mrs. Lozar knows areas we as a staff can improve on! Your responses will in NO way affect grades or staff attitudes! ☺

| Question   | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|--|----------------|-------|---------|----------|-------------------|
| 1. My student enjoys school.   |                |       |         |          |                   |
| 2. My student talks about school at home and seems happy to go.                      |                |       |         |          |                   |
| 3. My student enjoys doing science lessons and activities at school.                 |                |       |         |          |                   |
| 4. We encourage discussion about school and college at home.                         |                |       |         |          |                   |
| 5. The school is meeting the needs of my student.                                    |                |       |         |          |                   |
| 6. The school and staff are warm and welcoming.                                      |                |       |         |          |                   |
| 7. I would like my student to find a career in the science field.                    |                |       |         |          |                   |
| 8. Too much time is spent on science in the schools.                                 |                |       |         |          |                   |
| 9. I would enjoy doing more schoolwork activities with my student at home.           |                |       |         |          |                   |
| 10. I would rather ask an expert for an answer than do a project to find the answer. |                |       |         |          |                   |
| 11. We spend too much time at home doing schoolwork.                                 |                |       |         |          |                   |
| 12. The school and staff are knowledgeable and easy to talk to regarding science.    |                |       |         |          |                   |

APPENDIX D

LOZAR STUDENT ATTITUDE SURVEY

APPENDIX D

## Student attitude survey

| Question   | Yes! | Not sure. | No. |
|--|------|-----------|-----|
| 1. Science is fun.                                   |      |           |     |
| 2. I might want a job in science someday.            |      |           |     |
| 3. Scientists are all like the characters in movies. |      |           |     |
| 4. I like coming to school every day.                |      |           |     |
| 5. My family thinks school is good for me.           |      |           |     |
| 6. My family wants me to go to college someday.      |      |           |     |