

Increased Communication in the Science Classroom

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Background

- Research has shown that performance gaps can be attributed to poor parental involvement in student education.
- Overall grade increase has been found with online communication between teachers and parents.
- Increased communication between parents and schools increases positive relationships and parental satisfaction.
- Experimental group consists of sixth through 12th grade Whitewater Public School science students.

Research Questions

- Does the use of a communication app increase student accountability and grades?
- Does using a communication app increase parent interest in the classroom?

Treatment

Implementation of the Band app.

- Photo of classroom labs and activities
- Updates on new concepts being learned
- Monthly progress reports
- Miscellaneous messages for missing assignments or good deeds.
- Test and quiz dates

Data Collection

- Science Communication Surveys sent before and after treatment
- Science Communication Interview questions sent before and after treatment
- Student science motivation questionnaire sent during treatment
- Quarterly grade comparisons
- Teacher journal entries done throughout the treatment

Conclusion

Some gains were made with specific individual students with the implantation of the BAND app in the science classroom. Overall average grade comparisons did not show significant gains. Quantitative data showed an overall increase in communication between the teacher and parent. Qualitative data showed increased positive feedback and behavior from parents throughout the six months of research and stronger relationships were established.

Parent Quotes

- "I love this app! Every class in the school should be using it!"
- "I appreciate you taking the time to send updates."

Science Communication Parent Interview Question

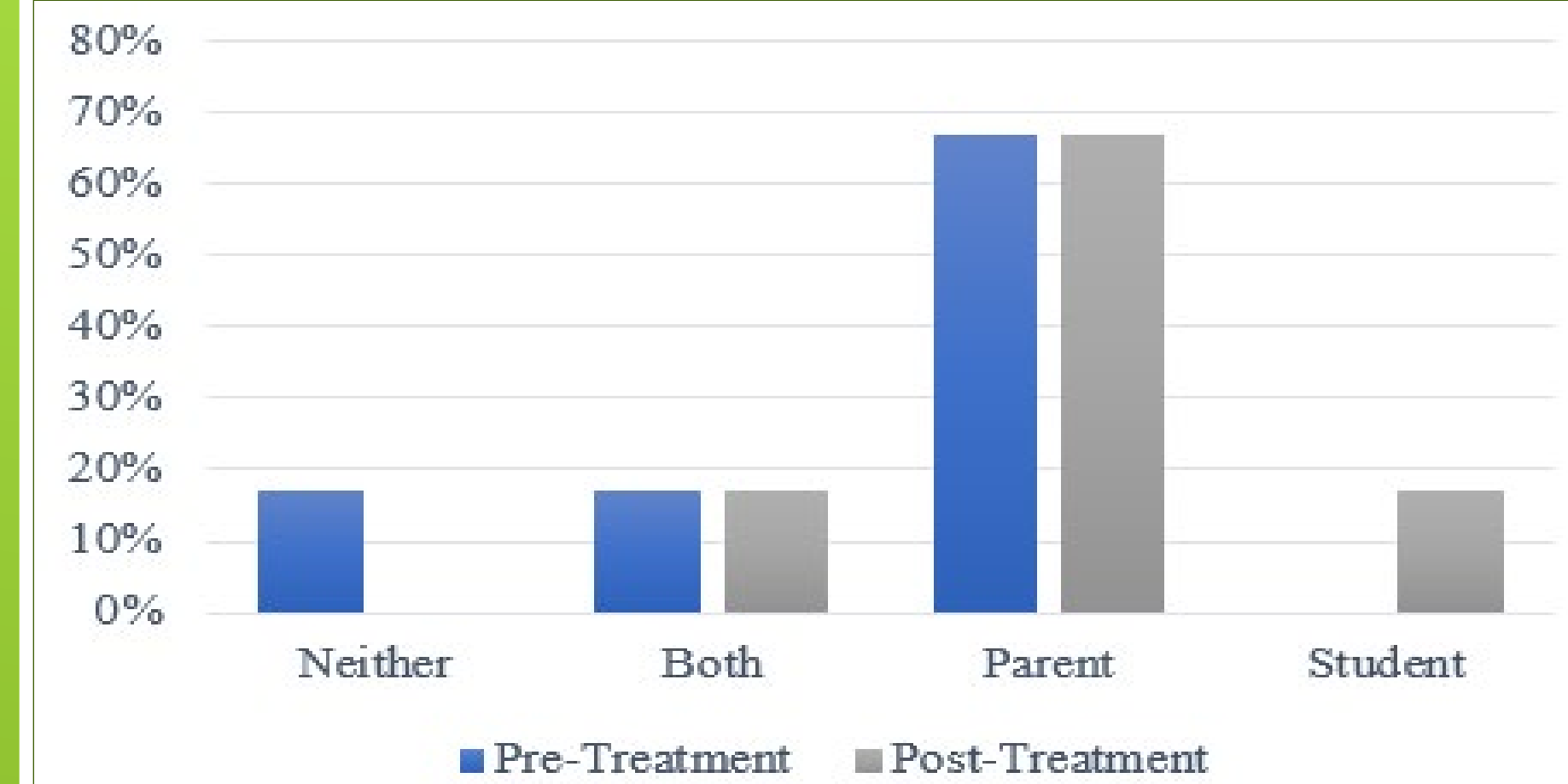


Figure 1: Responses from parents of who initiates the conversation about science class at home.

Science Communication Student Interview Question

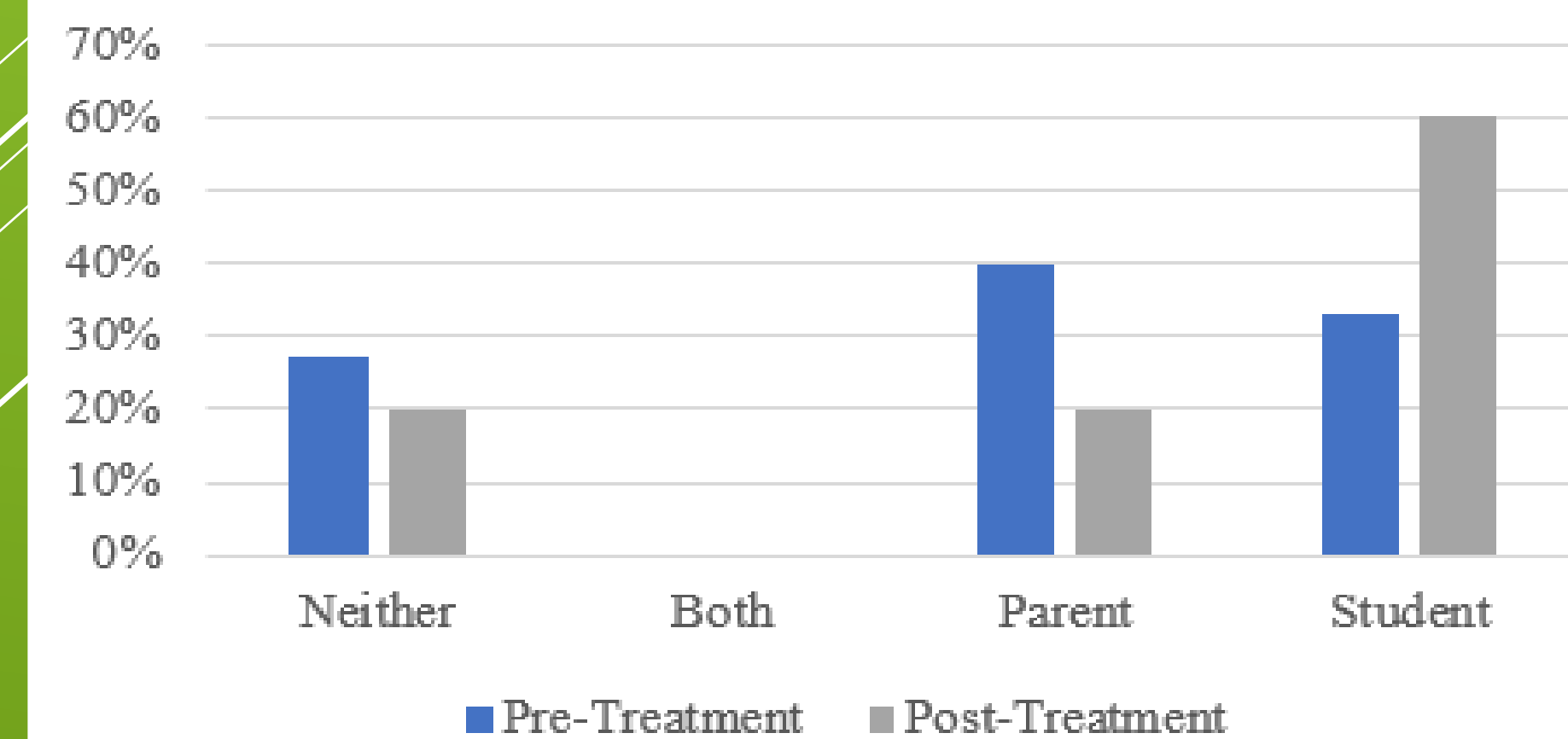


Figure 2: Responses from students of who initiates the conversation about science class at home.

Quarterly Grade Comparisons

6th-7th Grade 1st Quarter to 3rd Quarter Comparisons					
Student	Quarter 1 2023	Quarter 3 2024	Normalized Gains	Standard Deviation	Effect Size
A	96	97	0.25	4.17	0.24
B	87	91	0.31	4.17	0.96
C	91	85	-0.67	4.17	-1.44
D	94	93	-0.17	4.17	-0.24
E	98	93	-2.50	4.17	-1.20

Table 1: Quarterly grade comparisons for grades 6th through 7th.