

Peer Mentorship and Divergent Thinking 2013-2014

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(with support from administration)

Introduction:

This group of grade 2 students are just beginning their journey. Numeracy and literacy are fundamental to their future learning. Problem solving is an important skill that will support their future learning. Divergent thinking skills and critical thinking skills are assets in their ability to problem solve in all aspects of lifelong learning.

Students need to take ownership of their learning and of the ways in which they learn. They need to be able to approach learning in many kinds of ways, so that they acquire the skills necessary for problem solving in all aspects of life. Also, they need to be immersed into learning activities that afford them opportunities to reason, assess, evaluate, judge, and determine their learning outcomes.

Goal:

The goal of this project is to increase students' problem solving ability levels via peer mentorship as well as immersing the students in problem solving activities that foster divergent thinking skills as well as critical thinking skills, while increasing confidence and engagement.

Strategies: group problem solving activities that

- * foster divergent thinking skills
- * foster critical thinking skills
- * increase confidence
- * increase engagement
- * foster leadership skills

Data Collection Tools;

- * problem solving scores
- * engagement checklist

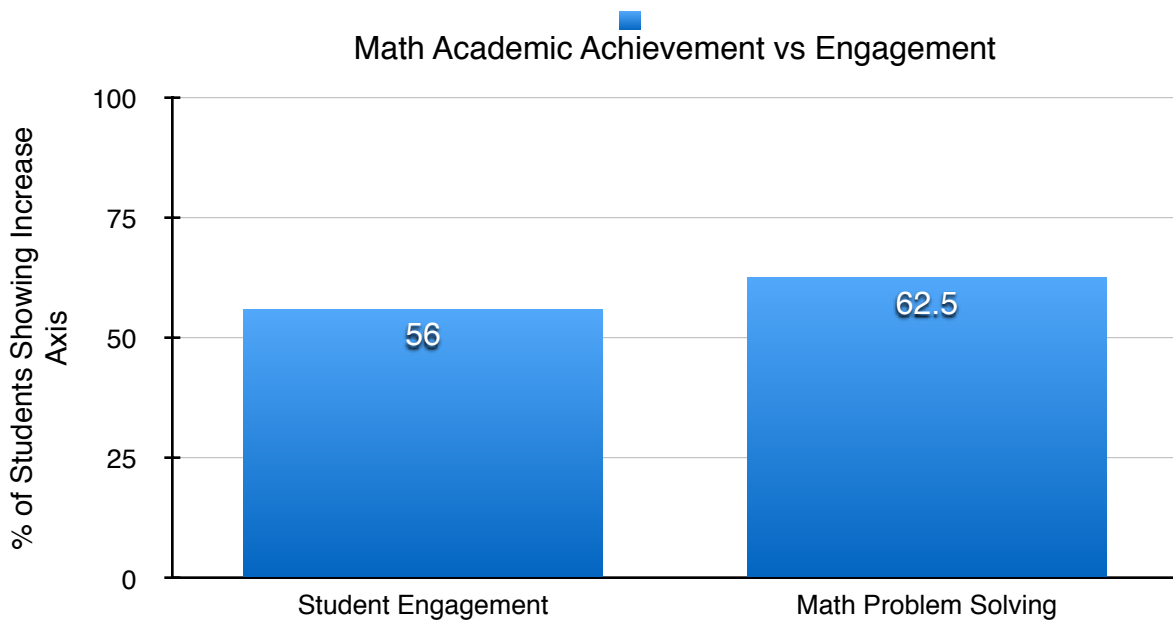


Fig. 1 This figure indicates that there was a definite increase in student Engagement as well as student problem solving ability.

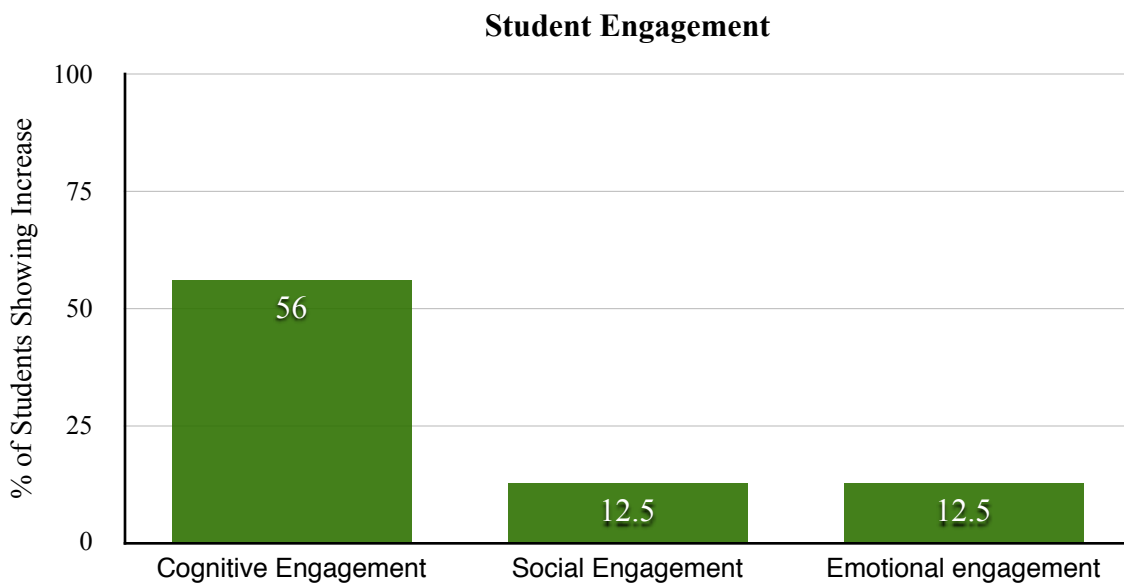


Fig. 2 Figure 2 shows a definite increase in cognitive engagement but limited social and emotional engagement.

Conclusion & Discussion:

Peer mentorship and immersing the students in problem solving activities that foster divergent thinking skills as well as critical thinking skills definitely resulted in increased math achievement and student engagement. Having group support was great for the students and they viewed this as a fun way to do work. This was evidenced by the social outcomes with 13 out of 16 students either increasing, or having top data yearly scores. Overall, the experience was wonderful for all of the students and a lot of learning took place. The results were expected for some of the students and somewhat surprising for others. It appears that there were a few commonalities that existed within the student outcomes rather than a common thread, or pattern.

One group of students had top scores for cognitive/social/emotional areas all year which may have resulted in an increase in math problem solving scores. Student engagement always remained high throughout the year. These students were on task, worked cohesively with their group members, were very interested, and worked diligently to complete quality work in a timely manner. As one would expect, scores increased.

A small group of students showed an increase in their cognitive abilities with social and emotional scores always tops as well as an increase in their math scores. These students were mainly on task, quite interested, and worked hard to complete quality work in a timely manner. They got along well within their group settings, too. Again, the outcomes increased, as expected.

Another small group showed an increase in cognitive and social skills but remained the same in the social aspect. There was no increase in math scores. However, student engagement went up. Their scores were maintained in terms one and two, but fell significantly in term 3. A fairly long family trip during the school year seemed to cause a decrease in interest while some health issues resulted in some sick days. These students successfully functioned within their groups.

A third small group of students had increased math scores. Their cognitive abilities increased. Like others in the class, these students had top levels maintained for social and emotional skills. Their engagement increased as well. Group work kept them interested and on task. As a result, they experienced success with their math marks.

This last group of students had quite different outcomes. As the year progressed, their behaviours stifled math scores. Two sets of scores decreased significantly with the third one increasing significantly. This seems surprising as one would expect that all three sets would

generally decrease because the cognitive, social, and emotional skill levels fell for all three, including student engagement. Some of these students experienced great difficulty with working in groups with the last student getting along fairly well within group settings. This student was a very good reader, but had difficulty with determining what was needed to solve the problems. Even though there were other group members explaining things in different ways, it still seemed difficult for that student to grasp. Math problem solving skills were very weak at the beginning of the year and there was still difficulty at year end.

For the remaining students, each one had a slightly different scenario; however, every one had engagement increasing, which is what we were hopefully expecting. The cognitive, social, and emotional aspects vary slightly, but everyone's engagement increased.