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How Can the Peer Leader Support Students' Learning in Workshop?
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Introduction

Peer-led workshops usually consist of 6-8 students who come together to discuss and solve problems on modules given to them each week. Workshop students often lack confidence in their ability to solve problems in mathematics.

Comparison is a big factor in lack of confidence, especially in group-based work. Students usually compare themselves with others based on how fast they could learn new material or complete assignments. Students also compare their own abilities to contribute to teamwork to their teammates, resulting in hesitating to ask for help. Grades and the amount of material students master is also a big factor to compare.

Gender roles are another factor in lack of confidence. Men usually conclude they are superior to their peers and women usually conclude they are inferior. When facing challenges, women tend to dwell on their failures and men only rarely. In situations where students find themselves inferior to others, they lose confidence. Faculty play a big part in increasing confidence in students; they could also explain to students that how long it takes to solve a problem is less important than understanding and solving it.

Literature Review

Overall Confidence in Mathematics is a scale representing a person's belief as to whether they can do any or all mathematics (Parsons, Croft, Harrison, 2009). Low Overall Confidence, also known as a barrier to learning mathematics, is associated with anxiety and/or panic regarding doing mathematics. High Overall Confidence, also known as an enabler to learning mathematics, is beneficial because students believe they can do it. Topic Confidence is the students' belief that they can do a particular part of mathematics. Applications Confidence is the students' confidence to apply mathematics for their future lives, not only for success in school.

Successful efficacy (based on Bandura's work) promotes a positive self efficacy among students (Hutchison-Green, Follman, Bodner, 2008). There are four sources from which efficacy beliefs are developed: mastery experiences, vicarious experiences (social comparisons), social persuasions (feedback received from others), and physiological states.

Observations

Students often say they dislike math. Math is not difficult, but it takes time and practice to really master it. Students in my workshop lost confidence after Week 3 because material gets more difficult and takes more practice to master. They began to act lazy because they don't want to do the extra work. They did

not want to take the extra time to review and go over their notes, homework and classwork. They tend not to ask questions in a classroom or even when they work in groups.

- A male student who told me that even though he goes to class, he does not learn from class. He said he mainly learns on his own by reading the textbook and doing the problems himself. He did not like to ask questions.
- The 3 out of 4 female students in my workshop were the ones who just sat back and waited for the male students to finish a problem and then attempt to explain it. The females wouldn't even try to solve the problem on their own first.
- There would be situations where a female student said that math is not important, that she would never apply it in her life.
- In one workshop where the students and I spent nearly half the workshop time discussing how to remember or how to find the opposite, adjacent, and hypotenuse of a right triangle.

The students in my workshop seemed to need someone to start solving the problem before it would trigger their minds that they know how to do it as well. Students asked me how to solve a problem or asked if their answers are correct. I would tell them to ask their peers first, but even after they ask their peers, they would end up asking me again. There is a lack of trust in each other. When my students are reluctant to ask their peers questions, I would ask them, "How would you start this problem?" or "What were your steps in solving this problem?"

Discussion

Students' reluctance to work on problems may be due to low confidence (Hutchison-Green, 2008). Low Overall Confidence is self-fulfilling because students' efforts improve their ability and performance (Parsons, Croft, Harrison, 2009) and my students did not want to try, ensuring their low overall confidence. Failure lowers self-efficacy (Parsons et al, 2009). Due to the lack of trust among my workshop students, there is negative social persuasion because one student sees that the other students don't trust their answers or knowledge, and they start to doubt themselves (Hutchison-Green et al, 2008). Vicarious experiences might be the reason why my students are reluctant to ask questions because they don't want to seem "dumb" in front of the other students (Hutchinson-Green, et al, 2008).

Students did realize that there are different approaches to understanding the course material through the questions the Peer Leader asked. As a peer leader, when I saw my workshop students start to lose confidence or interest in the math module of the week, I tried to encourage them to work in groups and ask their peers how to solve the problem. I know that each student knows different steps of solving a particular problem. A peer leader can ask questions and the students can answer, which makes the students start to think. This experience was not all positive, but I have decided to try being a Peer Leader again, to gain further experience on how to guide students to learn math.

References

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