

Understanding Math 10 Students' Experiences to Learn Mathematics

Summary

Students have much to tell educators about their experiences of learning math. Taking a moment to break from the practice of teaching to actively and openly listen to students about their math experiences can provide new insights into how to better help them (Aoki, 2004). Sometimes students' struggle to learn math struggle may either be productive as they persevere to understand or destructive as they feel that learning is frustrating and painful (Warschauer; 2015).

The purpose of this study was to gain an understanding and new insights into how students struggle to learn math, the different ways that students struggle, and how this experience shapes how they respond to future encounters of difficulty, as well as, their attitude towards math. Six Math 10 students were individually interviewed using semi-structured questions and their experiences were explored using interpretive methodology.

All students in this study said that they aim to understand how and why they must follow a procedure. They want to make connections between concepts so that they may create a deeper and more meaningful understanding (Skemp, 1978; Hiebert & Grouws, 2007). Students told me that they struggle when they experience confusion, cannot make connections, encounter hidden rules, cannot understand why, freeze on a test, and need to learn concepts that they said were irrelevant to their lives. All students spoke of times they persevered using various strategies to understand; however, some students talked about times when their struggles were destructive.

Students suggested three strategies that teachers could provide to help them understand the concepts and processes in math. The first strategy was to connect concepts and ideas to what they already know. Secondly, four students requested teachers to provide visual aides to create a

better understanding of what they are learning. Finally, all six students said that teachers should offer supports that students can access for extra help.

Since the sample size of this study is too small to draw definitive conclusions, the six students in this study have raised a few questions that may provide educators with new insights and understandings, as they have for me:

1. How well do you know your students and what they need?
2. Do you know which learning strategies (self-directed/inquiry/teacher-directed) will benefit each student?
3. Do you know which students need visual aides?
4. Do you know when and which students like to work in groups or alone?
5. Do you know who will ask questions and who will not? Do you check in with students beyond asking “are there any questions”?
6. Do your students see the big picture of how the concepts are related and can be understood? Do they know how new concepts are related to previously learned concepts?
7. Do they understand what to do and why to do it?
8. Are students able to communicate their understanding through reflection and negotiation?
9. Can students make statements about similarities and differences among concepts and processes?
10. Do you know how students struggle, why they struggle, and who is struggling?
11. Do your students know where to access support to help them understand?
12. Do your students see relevance in the math they are learning?

References

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