Building on Abilities: Developing a Growth Mindset

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Abstract
"Experience has taught me that before we can conquer any mathematics, it is important that the students first believe that they can learn math."

Posting about growth in learning from *In All Things* - an online journal for critical reflection on faith, culture, art, and every ordinary-yet-graced square inch of God’s creation.

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Comments
*In All Things* is a publication of the Andreas Center for Reformed Scholarship and Service at Dordt University.
I've always had an appreciation for the parable of the loaned money in Matthew 25. A master prepares for a journey and entrusts his three servants with talents of money. The first servant is given five talents, the second two talents, and the final servant one talent. When the master returns, the first and second servant have doubled the investment that the master gave them. As a child, I always liked calculating this in my head. The second reason I enjoyed this parable was the use of the word talents. Talents can refer to a sum of money, but I like thinking that the parable is giving a nod to the alternate meaning of talents as our abilities. In this interpretation, God has given us talents and abilities that we are to grow similar to how the first two servants grew their investments. God has gifted each one of us with unique abilities that he intends for us to nurture and share with the world. This parable provides a backdrop for the focus of this article on why I see a growth mindset as an important aspect of my pedagogy for the kingdom.

As a mathematics professor, I am entrusted with many students who are required to take a math class, but openly profess to their dislike for the subject and their lack of aptitude. As Dan Meyer has said, teaching mathematics is like selling a product to a market that doesn’t want it, but is forced to buy it. That might sound like a depressing task for a teacher, but I love it. One of my favorite classes to teach is a class for college freshmen who did not score high enough in mathematics to meet the university entrance requirements. Each semester, the students and I have the challenge of learning the materials that stumped them in high school. Experience has taught me that before we can conquer any mathematics, it is important that the students first believe that they can learn math. Designing a classroom environment that values a growth mindset has been vital in helping students believe that they can learn mathematics.
Students with a *growth mindset* believe that they can grow their intelligence. This stands in contrast to individuals who hold fixed mindsets; these students believe that intelligence is fixed and can’t be improved. Approximately 40% of individuals hold a growth mindset, 40% people hold a fixed mindset, and the remaining 20% fall on a spectrum somewhere between. Mindset theory has been applied to areas as diverse as business, athletics, and dating. It is important to note that your mindset varies by domain, meaning that your mindset toward dancing may be vastly different than that of mastering the perfect lemon meringue pie or learning math. There are [online tests](#) if you’d like to learn about your mindset.

Unfortunately, many individuals have a fixed mindset towards mathematics. They don’t see themselves as “math people.” Creating a classroom environment that fosters a *growth mindset* is especially important in mathematics as many people see mathematics as an innate ability. It is common to refer to individuals as “math geniuses” or having the “math gene” which contributes to a fixed mindset for many. I agree that mathematics may come more quickly to some students, but all students can learn math. Similar to the parable of the talents where each servant was given a different amount of talents, each was still expected to use their talents wisely. A *growth mindset* doesn’t take a deficit approach of what students can’t do. Rather, it values the abilities that each student has and seeks to build on them. This approach values each student as a unique image bearer of Christ with abilities that can be developed to help in their individual callings.

I must admit that the parable of the loaned money has sometimes confused me. I have often felt admiration for the final servant that did not risk his master’s money by investing it but kept it safe. The master’s response can seem overly harsh when you consider the risks that the first two servants made with his money. They could have come back empty handed after poor investments. Was it really so bad for the servant to bury the one talent and know that he would be able to give the one talent back? The parable makes it clear that God expects us to do more with our talents than to bury them. We are to develop them in His service.

As an educator, I believe that each student can master the material I give them. Similar to the servants that were given responsibility for different amounts of talents, each of my students learns mathematics at a different rate. Some learn math quickly, while others learn more slowly, but what God makes clear is that we are not to bury our talent. It’s not okay to say, “I’m not a math person.” We are called to develop our skills. God has given each of my students the potential to master the material. It is my challenge to provide experiences that will connect each student with the math in the way that best suits them. My belief that each student is capable is embedded in my belief that God has created each person with ability. It’s a joy for me to help students...
discover their ability to do math and to quell the negative beliefs they have held about their ability to do math.

I see a growth mindset as an important pedagogy for the kingdom because it also affects student behavior. “In a growth mindset, people believe that their most basic abilities can be developed through dedication and hard work.”

2 This unconscious belief makes a big difference in the behaviors that help students succeed. Imagine that you have a fixed mindset and don’t believe that you can do math. There is no point in putting in the extra study time or asking the extra question if you don’t think you can learn the topic. It’s hard for me to not equate this with the servant that buried his talent. Is it possible that he did not believe he was capable of doing more than simply burying his talent?

The final reason that I value a growth mindset as a kingdom pedagogy is its approach to failure. As humans living in a fallen world, we all fail and face setbacks, but students with a fixed mindset experience failure in a different way. They see setbacks as an indictment on their intelligence. Failure is proof that they can’t do something. In contrast, students with growth mindsets may be disappointed in their performance but are more focused on mastering the topic and finding a different way to succeed. They see failure as an indication that they aren’t there yet. Consider the parable of the talents. What would the master’s response have been if the servant with the two talents invested the talents and worked hard to grow them, but the investment didn’t turn out? When the master returned, he was still working to grow the talents, but only could return the original two talents. It’s a thought experiment, so we can’t know for sure, but my hunch is that the master’s response would have been kinder than the “you wicked, lazy servant” that the servant who buried the one talent received. This stresses the importance of the process of trying to grow, even if you haven’t been successful yet.

This emphasis on effort is consistent with the parable prior to the parable of the loaned money in which Jesus talks again about a master who goes away. The focus in this parable is the servants “remaining watchful” and being ready as they do not know the hour of the return of the master. He praises the faithful and wise servant and criticizes the wicked servants who are self-indulgent and not ready. This is important for students to hear. While mathematics may not be their favorite subject, they do not know the plans that God has for their lives. One of my great joys is running into former students and hearing where God has called them and how the math class they took so long ago ended up preparing them in ways that they couldn’t foresee. I see the potential in each of my students to do mathematics and a growth mindset has been an important pedagogy for the kingdom to help my students uncover this ability that God has placed in them.
FOOTNOTES
