

Minds That Are Ever Growing

As an individual ages, it is clear how much, if any, encouragement was given to them. However, people's minds are very fragile, and it can be the matter of one person that decides how you think for the rest of your life. The common mindsets seen in people, especially viewed in schools, are the fixed and growth mindsets. To explore the two worlds that these create, we will first define each mindset while exploring how it affects students and then see one of many ways to increase a growth mindset.

The fixed and growth mindset are facilitated by mentors like teachers, parents, and any authority figure in a person's life. Those who are seen to have been put in a fixed mindset find one's mind and intellectual ability are not malleable but a fixed trait (Dweck, 2016). These students or anyone who is a learner discover that they can only do as much as their brain can let them. They are at a threshold barrier, and nothing can change that they are just not good at certain things. Many have fallen into this track of a fixed mindset; the reasons can vary. Personally, I have seen this happen to myself and others with stereotyping and forced expectations. Through much of my schooling, people have seen me as the smart Indian girl who should be good at everything. This stereotype caused me not to accept and learn from my failures and instead hide and dismiss them as I'm just not good enough. This idea can be harmful as many students won't express what they don't understand and hide it. Anyone with a fixed mindset "effort makes them feel dumb" because they are supposed to be smart (Dweck, 2016).

Differently, anyone with a growth mindset doesn't see their intellect as something stagnant. Instead, intellect can be made through effort and education (Dweck 2016). Those with a growth mindset know that they can learn from failures and put in the effort to become better. I

remember having failed a test and commented that I just wasn't wired to do math; during class, the teacher mentioned that everyone could be good at anything with practice. When I went in for tutorials to look at the test I had failed, that teacher talked to me and taught me how to learn from my mistakes. They mentioned how to not look at tests as the most knowledge I have, but as the level, I currently am at and how much more I can learn. Hearing this was something that changed my mindset throughout the rest of high school and entering college. I realized I couldn't limit myself to what I believe is my max. With the growth mindset, failure is seen as room for improvement. There isn't a limit to how much you can learn and improve, you may not be the complete best or brightest at something, but with a growth mindset, you build a world that gives more possibilities, encouragement, and doors open for you.

The worlds of fixed and growth mindsets can be a detrimental part of learning for students and all who try to learn. If not encouraged and facilitated correctly, we can all fall into failure and believe that we can't do anything about it. Instead, those around us can help enable us to come from that failure and figure out where to go next. Creating a growth mindset can be done through assisting students in understanding failure isn't the end of the world, acknowledging effort over intelligence. Teachers and parents alike can make students understand this concept. Let parents encourage students and set realistic expectations so that the students can learn from mistakes. While teaching, we should be able to use encouragement to acknowledge students' effort, not intelligence. If we comment on just intelligence, then the thoughts of fixed mindsets can set students back. This can reassure students that not everyone is a super genius, and they do need some facilitating and outside work to achieve goals and understanding.

While having a growth mindset might seem to be the key to success, many students do not come into the class with these ideas, and the teacher must work to foster this mindset. Educators must become aware of who their students are and realize that other factors also contribute to developing certain mindsets. One such factor is the idea of equity. The differences in how students are treated can lead to the mindsets they hold. First, equity can be defined as the interpretation of respect for all while looking at all the differences that make up each student (Unterhalter, 2009). Concerning these differences, educators can bridge the gap that may exist and allow everyone to feel significant, worthy and create a better learning environment.

Within STEM education, disparities can be found between classrooms that lack resources, culturally responsive teaching, and representation/role models versus classrooms that exhibit these. Looking first at the lack of resources available to some students, this can be a challenge that discourages many from continuing education or having the confidence to learn. In one study looking at foster children and their pursuit of secondary education, it was seen that not having the resources necessary for survival and learning led to a decrease in students pursuing higher education (Fox and Zamani-Gallaher, 2018). This decrease shows the students lacked the mindset to grow continuously. The lack of support and resources brought down their motivation. Conversely, when presented with the idea of welcoming all who desire to learn despite their circumstances, there can be a change in their mindsets, which promotes further learning.

Another factor is having a culturally responsive classroom environment. It is essential to acknowledge that not all students come from the same background. Each student has their own unique experiences, ideas, and culture, which make up their individual identity. Ensuring each student is heard and creating a safe space to thrive can help encourage a growth mindset where

students handle challenges better. In STEM, it is seen that "structural racism creates barriers to education access," specifically for Black/African American students (Ladson-Billings & Tate, 2006). If this is ingrained in education as seen now, then students may feel unheard and expect that they are set up to fail. By being culturally aware and structurally responsive with our lessons, students will feel more prepared, more comfortable in their racial identity, resilient, and have positive self-schemas (Corneille, Maya, et al., 2020). Being culturally and structurally responsive includes giving access to students and current and future educators STEM and culturally relevant resources. With these changes, an increase in student participation, specifically with students of color, will be seen. This also levels out the field for students by allowing them to visualize what they can do and provides the push they may need to succeed. The idea of having positive role models and representation in the field of study that students would like to pursue can also tie into being culturally responsive. Although it can be cultural, gender or representation of any kind can be a source of uplift for students. Many students believe they cannot achieve anything if someone like them is not already doing it. One way to combat this is to increase the exposure and role of many educators, specifically those of different cultural backgrounds. A recommendation is to increase Black/African American educators and scholars that reflect students and help develop models to enhance STEM learning (Corneille et al., 2020). Integrating cultural backgrounds into student learning and showing them that there are people like them out there can give students tangible goals.

Having a fixed mindset is not the end of the world. While all these factors can show how it is very damaging to learners, educators and others alike can themselves learn and take from different ways to encourage students, and let their minds grow.

Works Cited

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