Fixed vs. Growth Mindset

| Program Type: Classroom Discussion | Audience Type: Grades 3–8 |

**Description:** Encourage debate over fixed vs. learned abilities, with the final message being that success at engineering (along with most things) is learned, not innate, and skills can be improved with practice.

**LEARNING OBJECTIVES**

- Students will discuss the importance of a growth mindset and learn that skills and abilities are improved with practice.

**TIME REQUIRED**

<table>
<thead>
<tr>
<th>Segment</th>
<th>Format</th>
<th>Time</th>
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<tbody>
<tr>
<td>Advance Prep</td>
<td></td>
<td>10 min</td>
</tr>
<tr>
<td>Set Up</td>
<td></td>
<td>0 min</td>
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<tr>
<td>Activity</td>
<td>Large group discussion</td>
<td>30 min</td>
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<tr>
<td>Clean Up</td>
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</tbody>
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**SITE REQUIREMENTS**

- Access to the internet, computer, projector and screen.

**PROGRAM FORMAT**

- Introduction
- Fixed vs. Growth Mindset
- Wrap-up
Chances are, you’ve heard students use phrases like these when they are frustrated with an activity. They are all examples of a **fixed mindset**—the belief that our brains have strengths and weaknesses that don’t change over time. The opposite of this mindset is a **growth mindset**—the belief that brains are like muscles and able to change, grow, and improve with practice.

There is considerable research in the world of education about the power of promoting a growth mindset. We recommend reading through some resources and research to familiarize yourself with the topic. Teacher language when giving praise and setting up challenges can have significant outcomes on student performance. A great starting place is this collection of resources by Edutopia: [http://www.edutopia.org/article/growth-mindset-resources](http://www.edutopia.org/article/growth-mindset-resources). You can choose to print out some written materials for students to take home or explore in class.

The facilitator should think of a time when they had to overcome a struggle by being persistent and practicing a new skill. You will have time to share about this experience.
Let students speculate before offering answers to any questions. The answers given are provided primarily for the instructor’s benefit.

Suggested script is shaded. Important points or questions are in bold. Possible answers are shown in italics.

**Were all of us born with the abilities we have today? Are people born smart, skilled, athletic, or knowledgeable?**

No. When we are born, we can’t read, we can’t eat solid foods, we don’t even know how to walk, and we certainly don’t know how to play sports or play an instrument. All of these skills are developed based on what people call a **growth mindset**: the idea that our brains grow and strengthen based on how we use them.

Think of a talented athlete, musician, or artist you have heard of. Were these people born with the ability to do what they do? How did their skills get to where they are today? *They practiced!*

OPTIONAL (5 min): Below are two videos, both less than three minutes long, that are great starting points as you examine this topic:

Khan Academy – “You Can Learn Anything” (2014)
[https://www.youtube.com/watch?v=JC82Il2cjqA](https://www.youtube.com/watch?v=JC82Il2cjqA)
(Duration 1:31)

Sentis – “Neuroplasticity” (2012)
[https://www.youtube.com/watch?v=ELpfYCZa87g](https://www.youtube.com/watch?v=ELpfYCZa87g)
(Duration 2:04)

The Khan Academy video is a general, very upbeat introduction to the concept of growth mindset and showcases a wide variety of examples of how we learn new skills through practice. In contrast, the Sentis video explains how pathways in the brain grow and become reprogrammed. These videos aren’t redundant, and they can be easily shown together thanks to their short durations.

In the same way a soccer player must practice to get better, we can also continue to practice our own skills to get better at something we want to accomplish. If you have ever said, “I’m not good at math,” it is because you have not developed those skills yet. You can “get good” at anything if you continue to try, fail, and learn from your mistakes. Our brains can learn anything!
Activities

Share with students a personal anecdote from your life that highlights a time when you struggled with something, but were able to practice and become better. Choose a story that involves hard work and touches on the strategies you used and the people who helped you. If you were able to show the videos, relate your story back to them.

If there are multiple adults present, split students into groups so that there is at least one adult facilitator per group. Alternatively, do this activity as a whole-group discussion. Distribute the “You Can Grow Your Intelligence” handout from Brainology™ for students to read and take home.

Think of a time when you struggled with something challenging and you had to learn skills in the process. Maybe you were practicing a sport, or you wanted to get better at drawing. Perhaps you had to help with chores or cooking and didn’t quite know how to do things at first. Do you have an example of how you practiced a growth mindset in your own life?

As students are sharing, create a list of characteristics of someone with a growth mindset on the board or chart paper.

Examples:
- “Doesn’t give up”
- “Tries new strategies”
- “Asks for help”
- “Doesn’t get discouraged or embarrassed by failure”

Ask students what else should be added to the list.

Ask for student observations. There is no correct answer. Let students guide the discussion.

Bring the whole group back together and discuss some stories, reviewing the difference between a fixed and growth mindset.

What abilities have you developed in life?
How did you get to the level you are at now?
What can you do to continue to get better at things you want to improve?