



Module Title
Growth Mindset

Social Emotional Learning Curriculum

SEL Topic: Self Awareness

Level: High School

Module At A Glance

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Lesson Objectives

Students will be able to explain the basics of neuroplasticity in relation to growth mindset.
Students will be able to differentiate between a growth mindset and a fixed mindset.
Students will be able to apply various strategies, behaviors and thoughts that practice growth mindset.

Activity Snapshots

This lesson incorporates the following activities, information and Teacher Tools.

Title	Activity Type	Approx. Time	Resources and Materials
Activity 1: What is Neuroplasticity?	Video and/or demonstration Discussion	5 – 10 minutes	About Growth Mindset Student Instructions Activity Definitions Optional: Internet and Projector
Activity 2: Growth Mindset and Fixed Mindset	Discussion	5 – 10 minutes	About Growth Mindset Student Instructions Activity Definitions Projector/Chart Paper
Activity 3: Applying Growth Mindset	Video and/or short story Discussion	10 minutes	About Growth Mindset Student Instructions Optional: Internet and Projector

Description/Intent:

In this module, students will be introduced to the neuroscience behind growth mindset, called neuroplasticity, discuss strategies to encourage growth mindset, and begin to apply these strategies for increasing effort in their daily lives.

Applications & Benefits:

A growth mindset can help students understand that the effort they put into something can directly affect the outcome they receive. Studies in which student exhibit growth mindset have shown higher student achievement and motivation.



About Growth Mindset

Defining Growth Mindset

What does it mean to grow?

Growing is improving and getting better.

What is a mindset?

The way you look at things, or how you interpret the world, is your mindset.

What is a Growth Mindset?

A growth mindset contains the belief that intelligence and abilities can be improved and developed by applying effort. It means that believing in the power of yourself and your brain which can lead to improvements in behaviors and skills.

The other side of the growth mindset continuum is a fixed mindset, which incorrectly believes that basic qualities of intelligence and talent are fixed and cannot be improved. Research has shown this to be untrue, that are brains can be rewired. The fixed mindset frame includes wanting to quit, give up or deciding that you are just not good at something.

Module Rationale:

Developed over 30 years ago by Carol Dweck and colleagues, growth mindset research began with by questioning student attitudes regarding failure and being able to either bounce back or shut down as a result. Individuals with a growth mindset possess an underlying belief that individuals have the ability to become smarter or get better at a task by applying effort. Research has shown that teaching, practicing and encouraging a growth mindset in students increases student achievement. Studies have shown that individuals exhibiting a growth mindset have increased motivation for learning and take risks and pursue more challenging tasks.

The key behind growth mindset is the idea of neuroplasticity, a fairly recent discovery in brain research. While scientists used to think that our brains stopped growing in childhood, research has shown that are brains are adaptable and can rewire themselves to strengthen new skills, behaviors and learning. We can think of our brains as muscles that have the ability to grow, rather than as a fixed set of skills. On the other end of growth mindset, is having a fixed mindset. A fixed mindset believes that we cannot change and that our skills are natural, that applying effort won't matter.

Giving Students Feedback:

Teachers (and other adults) play an integral role in encouraging growth mindset. Teachers that model behaviors of growth mindset by praising effort, embracing mistakes, helping students



find different strategies to succeed and still setting high expectations. However, it is important to not ‘overdo’ praising effort in a way that students see as ungenune, or as a substitute for actual learning. Since effort is the ingredient to prepare the brain to grow, the key idea is to help students understand that the effort they put forth will add to the learning. Teach and encourage students to value the learning that is a result of the effort they put forward.

Helpful Tips

- Use practical reasoning when explaining growth mindset. Research does show that the brain can grow and this is called neurpplasticity.
- Replace, “try harder,” with providing strategies for students to use.
- Create a classroom culture that is accepting of mistakes so that students are more likely to take risks.
- Let your students know that you believe in them!

Points to Cover

Since most people don’t like being told what to think, individuals are more likely to respond positively to growth mindset when it is practical; neuroscience has proven that the brain can and will rewire itself.

Teacher Feedback

Please provide insights on any adjustments made regarding the actual use of the content. Feel free to share your thoughts, suggestions, and constructive criticism. Email your feedback to: info@mylearningtools.org



Activity #1: What is Neuroplasticity?

Teacher Instructions

Carefully read pages 2 and 3 that describe the basics of growth mindset. Make the Student Instructions for Activity #1 accessible for students (via projector, hand copies, online host, etc.).

If available, prepare the projector to show a video. (There is a non-video option).

Definitions

Growth mindset is a way of interpreting the world that believes our intelligence and abilities can be improved by applying effort.

A **fixed mindset**, on the other hand, is a frame of mind that believes that qualities of intelligence and ability cannot be improved and that they are fixed and cannot be changed in a meaningful way.

Neuroplasticity is the brain's ability to change and rewire itself. This brain research is fairly new, within the last decade or two. Science shows that as we apply effort, or try a new skill or behavior over and over, our brain rewires itself to accommodate the new learning.

Activity

Introduce students to the concepts of growth mindset and fixed mindset by reviewing the definitions.

If available, show the students the video below, part of the Sentis Brain Animation Series, on neuroplasticity.

<https://www.youtube.com/watch?v=ELpfYCza87g>

If video is unavailable, you can have some students help demonstrate how the brain can rewire itself with new learning using the following example. Take, for example, how natural hiking or bike paths are formed. Ask a few students to walk from one side of the room to the other, making sure to go around all the desks or tables (in a way that isn't the most direct route). Ask one student volunteer to think about a better, more direct path to the other side. This might be through the middle of some desks or tables, or require some maneuvering around furniture. Then, have a few students again, walk from one side to the other but using this new pathway.



The pathway may not be easy at first, but as the students continue to maneuver around desks or tables, ask them to slightly move them aside (if possible) until a larger, more accessible path is made. This is how your brain rewires itself. As the brain tries a new skill or behavior, at first, the neural pathway is small. However, as time goes on and the path is used more often, the neural pathway becomes larger. The effort we put forth to using the new pathway (i.e. the skill, ability, behavior, etc) helps build a better pathway. This is what happens when people create paths to hike. The path becomes clearer and clearer as it is used by more and more hikers.

After the video or demonstration (or both), explain that the brain's ability to change is called neuroplasticity. Take a few minutes to talk with students about neuroplasticity. Try the following questions.

- If we know that our brain can change, what does this mean about our ability to learn a new concept or skill?
- How is effort an important factor in rewiring our brains?
- How is our brain like a muscle?
- What can we do to help rewire our brain?

End the lesson by asking a few students to share a time when they learned a new skill or changed their behavior. Follow up each new skill by asking students to talk about the process of learning the new skill. In other words, what did they do to learn the new skill? Did they try a new method, ask for help from a friend, practice an extra day each week? What kind of effort did they put forth to rewire their brain?

If students aren't ready to share out loud, ask students to journal their answers, again, reinforcing the follow up question that helps them recognize how effort impacted their learning.



Activity #2: Growth Mindset and Fixed Mindset

Teacher Instructions

Carefully read pages 2 and 3 that describe the basics of growth mindset. Make the Student Instructions for Activity #1 accessible for students (via projector, hand copies, online host, etc.).

Definitions

Growth mindset is a way of interpreting the world that believes our intelligence and abilities can be improved by applying effort.

A **fixed mindset**, on the other hand, is a frame of mind that believes that qualities of intelligence and ability cannot be improved and that they are fixed and cannot be changed in a meaningful way.

Activity

On a whiteboard, Promethean or chart paper, create a T Chart with Growth Mindset on one side and Fixed Mindset on the other. Review with students the concepts of growth mindset and fixed mindset. Try asking a volunteer to describe the two beliefs in their own words. Jot down their thoughts and ideas about each on the T chart.

Ask students to think about the different ways people might talk or think using a growth mindset or a fixed mindset. Provide students with some scenarios and ask them to describe the behaviors and thoughts of someone approaching that situation with a fixed mindset and how to alter that to a growth mindset frame. Write down their ideas on the T chart.

As you go through the scenarios, reinforce to students that growth mindset is important even in the more positive situations. For example, if your softball team wins a championship, a growth mindset says, "We practiced five times a week, listened to our coaches and developed our skills," whereas a fixed mindset says, "We have more natural talent than the other team."

- Failing a math test
- Winning a softball championship with your team
- Having trouble writing an essay for English class
- Bringing someone a wrong order working at a restaurant
- Passing your driver's test



End the lesson by asking students to think about something that they are going to apply growth mindset to. This might be an upcoming test, a project, a job interview, and so on. Have them write down the goal and then write down a few statements that they can remember to use the growth mindset frame. Ask students to share, as they are comfortable.



Activity #3: Applying Growth Mindset

Teacher Instructions

Carefully read pages 2 and 3 that describe the basics of growth mindset. Make the Student Instructions for Activity #1 accessible for students (via projector, hand copies, online host, etc.).

If available, prepare the projector to show a video. (There is a non-video option).

Definitions

Growth mindset is a way of interpreting the world that believes our intelligence and abilities can be improved by applying effort.

A **fixed mindset**, on the other hand, is a frame of mind that believes that qualities of intelligence and ability cannot be improved and that they are fixed and cannot be changed in a meaningful way.

Activity

Review with students the concepts of growth mindset and fixed mindset. Draw attention to the T chart made in the previous activity.

If available, show the students the video below from Khan Academy, with John Legend as he describes his struggles with finding a record deal and the strategies he uses to get better.

<https://www.youtube.com/watch?v=LUtcigWSBsw>

If video is unavailable, tell students the following story.

This is the story of Walter Elias Disney. Disney was born in 1901 and grew up in Missouri and Kansas. He didn't have the best home life, and was first an ambulance driver in WWI. He initially lied about his age to try and join the army.

Disney began his career by opening a cartoon business with one of his brothers. After they went bankrupt, Disney took a risk and moved to California to find new opportunities. He developed an animation studio and had some success with his character, Oswald the Lucky Rabbit. However, the producers renegotiated his contract and he ended up losing all legal rights to his character.



After this loss, he came up with the idea for Mickey Mouse. Mickey Mouse was rejected over 300 times before a studio said, “yes.” He had great success with Mickey Mouse, but still had a hard time keeping his business afloat. After having a nervous breakdown, Disney decided to take the challenge of developing a full length animation. The result was Snow White and the Seven Dwarfs in 1937.

Even still, Disney faced business challenges when his workers went on strike and he was 4 million dollars in debt. This is when he turned to television, and create The Mickey Mouse Club. After the success of The Mickey Mouse Club and Davey Crockett, he was able to share his vision and create Disneyland.

Disney was quoted saying, “All the adversity I’ve had in my life, all the troubles and obstacles, have strengthened me. You may not realize it when it happens, but a kick in the teeth may be the best thing in the world for you.”

After watching the video, reading the story, or both, discuss John and/or Walt’s journey with the students. Try the following discussion questions.

- What hardships did John/Walt face? What kind of effort or strategies did John/Walt use to overcome these hardships?
- How did John/Walt exemplify growth mindset?
- What are some things John/Walt might have said to himself using a growth mindset frame?

Next, ask students to discuss a time that they were able to overcome a hardship, learn something new, change a behavior, etc. The goal is to focus on the strategies they used. You may even start by sharing a time that you struggled and had to work hard to get better.

As students share, use a Promethean, whiteboard, or chart paper to write down the different strategies that students used. Some examples to discuss are listed below.

- Help from others
- Practicing
- Taking lessons
- Getting a tutor
- Asking for clarification from a teacher
- Reading the text again
- Taking notes
- Hard work



- Avoiding distractions / focusing on a task

Have students think about the previous activity, which asked students to identify a task which they will apply growth mindset to. Have students write down the task, and then add three strategies that they can use to apply effort to that task.



Student Instructions Activity #1: What is Neuroplasticity?

Define

Growth mindset is a way of interpreting the world that believes our intelligence and abilities can be improved by applying effort.

A **fixed mindset**, on the other hand, is a frame of mind that believes that qualities of intelligence and ability cannot be improved and that they are fixed and cannot be changed in a meaningful way.

Neuroplasticity is the brain's ability to change and rewire itself. This brain research is fairly new, within the last decade or two. Science shows that as we apply effort, or try a new skill or behavior over and over, our brain rewires itself to accommodate the new learning.

Watch

Watch a short video on neuroplasticity at <https://www.youtube.com/watch?v=ELpfYCza87g>.

Discuss

- If we know that our brain can change, what does this mean about our ability to learn a new concept or skill?
- How is effort an important factor in rewiring our brains?
- How is our brain like a muscle?
- What can we do to help rewire our brain?

Share

Share a time when they learned a new skill or changed their behavior. Follow up each new skill by asking students to talk about the process of learning the new skill. In other words, what did they do to learn the new skill? Did they try a new method, ask for help from a friend, practice an extra day each week? What kind of effort did they put forth to rewire their brain? If students aren't ready to share out loud, ask students to journal their answers, again, reinforcing the follow up question that helps them recognize how effort impacted their learning.



Student Instructions Activity #2: Growth Mindset and Fixed Mindset

Review

How is growth mindset different than a fixed mindset?

Discuss

How do our behaviors and speech change when we have a growth mindset rather a fixed mindset? Share your ideas based some of the following scenarios.

- Failing a math test
- Winning a softball championship with your team
- Having trouble writing an essay for English class
- Bringing someone a wrong order working at a restaurant
- Passing your driver's test

Write

Think about something that you can apply growth mindset to. Write down your goal and then write two or three statements that can help you remember to have a growth mindset.

Fascinating Details

The human brain is born with very few capabilities, but a tremendous amount of potential for growth. With everything you do, your brain is taking in information, making sense of it, and solving problems. Mental effort and intellectual difficulty require the brain to establish new neural connections. The brain physically grows stronger and more intelligent when it is challenged. Even if it does not feel like you've accomplished everything you were attempting to learn, your brain has grown stronger.



Student Instructions Activity #3: Applying Growth Mindset

Watch and Listen

Watch this short video about a musician and how he used growth mindset in his life

<https://www.youtube.com/watch?v=LUTcigWSBsw>.

Listen to the story of a famous cartoonist and how he used growth mindset in his life.

Discuss

- What hardships did the individuals face? What kind of effort or strategies did they use to overcome these hardships?
- How did these individuals exemplify growth mindset?
- What are some things they might have said to themselves using a growth mindset frame?

Share

Share a time that you were able to overcome a hardship, learn something new, change a behavior, etc. Tell about the strategies you used that were helpful to you.

Apply

Think about the goal you wrote about in the previous activity. Rewrite down the goal and decide on three strategies you could use to apply effort toward that goal.

Just for Fun

“It’s not that I’m so smart, it’s just that I stay with problems longer.” – Albert Einstein



Quiz

1. What is neuroplasticity?
 - a. The brain's way of holding a set amount of skills
 - b. The brain's ability to change and rewire itself
 - c. A branch of science related to plastics
 - d. A type of plastic used for many different purposes

2. Which of the following statements follows a growth mindset frame?
 - a. I'm no good at this.
 - b. I don't have that ability.
 - c. This is too hard.
 - d. How can I improve?

3. Which of the following behaviors exhibits a growth mindset frame?
 - a. Accepting a B when you could study and get an A.
 - b. Giving up after trying one strategy.
 - c. Using a mistake as a learning opportunity.
 - d. Not trying at all.