

Element 5

Choosing a Growth Mindset

Learning success increases when individuals in a community choose growth mindsets. A growth mindset, where someone believes their abilities can improve, lays the foundation for managing achievement and failure.

## **Choosing a Growth Mindset**



Ongoing research over the past few decades, led by Dr. Carol Dweck, proves that individual mindsets play a critical role in learning success. Success in learning, or endeavours which demonstrate proficiency, was once primarily associated with natural talent. While what is referred to as talent is a critical component for achieving success, individual mindsets are equally important to developing that talent.

Dweck's research uncovered that mindsets are best understood under two categories; the growth mindset and fixed mindset. Those with a growth mindset enable their intelligence to mature, embrace challenges, are resilient and unafraid of taking risks to improve. Their commitment and willingness to immerse themselves in learning without relying on approval from others is what drives them towards personal achievement.

Those with a fixed mindset believe that intelligence is fixed and cannot be grown. Fixed mindset individuals often focus on what comes easily to them and fear taking risks that might expose weakness. Because they believe intelligence is fixed, they don't possess the motivation to work hard at growing themselves sufficiently and often remain fixed in their own level of personal development.

Growth mindsets support a pathway towards becoming a lifelong learner; individuals who have fostered the critical skills to continue their personal learning journeys beyond formal education. Growth mindset development is common among those provided with the opportunities to understand how cognitive functioning and new evidence in neuroscience supports their developmental success.

A learning community and parents play critical roles in fostering growth mindsets among students. Leadership and educators must evaluate their own mindsets, the feedback they offer and learning opportunities they facilitate to support growth mindset development. A learning community must also commit itself to supporting parents in their knowledge of and ability to foster the growth mindsets of both themselves and their children.

Developing a growth mindset is a lifelong journey; a moving target that can be achieved by anyone but easily lost without continued focus on personal development. A learning community which commits itself to developing the growth mindsets of its students sets the wheels in motion for creating the type of agile, lifelong learner required to succeed in the 21st century.

#### Then Now Learning ability was considered to be Everyone has the capacity to grow and based on innate ability. develop their unique learning ability. Success in learning was measured Learning that is steeped in purpose through a grading system and limited can provide the motivation required to success to a select type of student. encourage unique learner success. Learning was considered complete Lifelong learning is needed to ensure once formal education ended. individuals are equipped to cope with a VUCA world, and a growth mindset can support individual success.

### **Starting Questions**

- 1. Do you believe that intelligence is fixed or that it can be grown?
- 2. Does the current global learning model sufficiently motivate its students to learn with a sense of passion and commitment to continue learning beyond formal education?

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- 3. Can you think of examples in your personal life or learning community where achievement was experienced through commitment to hard work, taking risks, failing forward and resilience?
- 4. Does your learning community sufficiently support individuals to develop their skills and competencies to set them on a lifelong learning journey?
- 5. What might a learning community do to attempt to foster the growth mindsets of all the key actors in its community and beyond?

### **Key Initial Actions**

- 1. Ensure the learning and wider community is sufficiently organised to develop the growth mindsets of all actors.
- 2. Plan learning experiences that develop community understanding of growth mindsets, cognition and metacognition.
- 3. Embed growth mindset development into the mission statement of the learning community.
- 4. Communicate to the learning community that risk and failure are welcome opportunities for personal and collective growth.

## **On-going Actions**

- 1. Use effective feedback language to grow a learning culture that sustains learner development.
- 2. Ensure that the learning community reacts positively to failure and it is seen as part of personal and community growth.
- 3. Ensure continued community development that supports individual and collective growth around learning mindsets.
- 4. Foster sustained links in and outside the learning community to ensure a consistent strategy for fostering student growth mindsets is established.

### **Further Reading**

25 Simple Ways To Develop A Growth Mindset

Carol Dweck Revisits the 'Growth Mindset'

How Do You Actually Develop A Growth Mindset?

Mindsets for the 21st century and beyond

Neuroplasticity: Rewiring Your Brain For Optimal Learning

Fixed vs. Growth: The Two Basic Mindsets That Shape Our Lives

Even Geniuses Work Hard

#### Watch

Carol Dweck: The power of believing that you can improve

Video library on the growth mindset

**Neuroplasticity** 

Angela Lee Duckworth: The power of passion and perseverance

## Find out More

Over the past few decades, research consistently concludes that a person's mindset has a huge influence on their success or failure, not only in learning, but other areas of life too. Success can be attributed to having a growth mindset. A growth mindset helps individuals equip themselves with the demands or challenges life and learning places on them.

Carol Dweck, lead researcher on mindsets, became interested in attitudes towards failure in learning when observing that some students bounced back from failure, while others seemed devastated by even the smallest setbacks. Since this observation, numerous studies have attempted to capture the characteristics of learning mindsets and the important steps that could help foster growth mindsets to support learning.

# **Key Ideas**

- 1. Growth and fixed mindset individuals possess various observable features.
- 2. Having the *belief* that a mindsets can change is a critical component in fostering a growth mindset.
- 3. A learning community, educators, parents and guardians play a critical role in supporting growth mindsets for students.
- 4. Advances in neuroscience and facilitating this knowledge-building for students can help support growth mindset development.
- 5. Maintaining a growth mindset requires continued self-monitoring and evaluation throughout one's life.

## Questions

- Do you believe that success in learning is achievable for everyone?
- Should a learning community assume full responsibility for fostering the growth mindsets of all its students?
- How should a learning community ensure that its key actors are equipped to support the growth mindsets of its students?
- How much emphasis should a learning community place on learning design experiences that expose their students to growth mindsets, grit and neuroscience?
- Do you believe that a growth mindset is an achievable aspiration for every student?

**1. Growth and fixed mindset individuals possess various observable key features.** Dweck describes a growth mindset thus;

'In a growth mindset, people believe that their most basic abilities can be developed through dedication and hard work—brains and talent are just the starting point. This view creates a love of learning and a resilience that is essential for great accomplishment<sup>1</sup>.'

The growth mindset learner possesses some recognisable attributes and beliefs to support them:

- 1. Talent and ability increases or decreases depending on their commitment to their learning. They believe their knowledge and understanding can change and take the necessary steps to ensure they continue on a developmental learning pathway.
- 2. They focus on their passion which allows them to fully engage in a learning process, and do not get fixated or attached to the endpoint. Gaining affirmation and approval is not their source of motivation.
- 3. They are not always driven by success, but by the challenge that learning offers them, recognising that the effort required to succeed can be tough. They do not give up when things get difficult. Instead, they are willing to increase effort and time, calling upon strategies to help them persevere.
- 4. They respond to obstacles positively, remain engaged, try new methods or tactics, use a variety of resources and seek support from others in their learning community if and when necessary.
- 5. They take risks. They recognise that mistakes caused by taking risks are often a by-product of tough challenges. They see failure as part of their growth which might help increase knowledge and the development of a new skill.

Ironically, by not being driven solely on success and outcomes, growth mindset learners tend to achieve great results because they are immersed in the challenge and the processes that the learning offers, not the outcome.

"Failure is a stepping stone to further success."

Sri Swami Satchidananda

### What is a fixed mindset?

Dweck describes a fixed mindset thus;

'When people believe their basic qualities, like their intelligence or talent, are simply fixed traits. They spend their time documenting their intelligence or talent instead of developing them. They also believe that talent alone creates success—without effort <sup>2</sup>.'

People with a fixed mindset measure their success based on assessment results and how they compare with their peers, believing this is an accurate representation of their ability.

### The Fixed Mindset Learner

The fixed mindset learner possesses some key opinions or beliefs that hinder them:

- 1. They value being perceived by others as smart.
- 2. They sacrifice opportunities to learn when it requires them to perform poorly in learning tasks which highlight deficiencies.
- 3. They relate risk and effort as potential ways of unmasking perceived learning flaws, and they might feel threatened by learning tasks that stretch their ability.
- 4. When they encounter setbacks, self-confidence can be affected. They often seek easy tasks over hard tasks, which can cause their development to stagnate.
- 5. Because they believe their skills and abilities are innate, they associate natural talent to their success and therefore don't see value in working at intelligence, which they view as 'fixed'.

Fixed mindset learners can find it tough to change their thinking and learning habits. Some possible reasons for this might be; they are not aware that they can; they are not sure how to; they are not interested in doing so; or they do not have the self worth to try.

The diagram below highlights some key beliefs of growth and fixed mindset individuals:

<sup>&</sup>lt;sup>2</sup>What is growth mindset?





- I'm only good at certain things
- I give up when it gets too hard
- I hate challenges
- I take feedback and criticism personally
- I don't like doing what I don't know
- I can be good at anything
- I try untill I get the results I want
- I embrace challenges
- I welcome feedback and criticism
- I like learning about things I don't know

# 2. Having the *belief* that a mindset can be developed is a critical component of being able to foster a growth mindset.

Dweck's definition of growth mindsets might seem achievable, believing intelligence can be developed, requires continued focus, skill, intervention, encouragement, patience, self-awareness, support, grit, trust, flexibility and a fail-forward mentality. Added to this challenge is the critical influence factors outside an individual's control plays in encouraging a growth mindset; the learning community, educators, parents, guardians and peers to name a few.

"A growth mindset is not growth, it is the invitation to grow."

James Anderson

# 3. A learning community, educators, parents and guardians play a critical role in supporting growth mindsets for students.

Learning communities committed to creating optimum conditions that foster growth mindsets must align on key areas to support its continued development.

## The Learning community

- 1. It must cater to the growth needs of every learner.
- 2. It should encourage appropriate risk-taking and communicate that failure is crucial for growth; the community should be a safe space to fail.
- 3. It should be challenging and not where learners simply learn within the parameters of their own success.
- 4. It should not offer all the answers which can discourage growth or key learning opportunities.
- 5. Learners should be able to take charge of their own learning and be self-directed when possible.
- 6. Learners should learn about how they can learn themselves.

### **Educators**

- 1. They must emphasise the importance of being challenged, not for success, but personal development. They should highlight the importance of improvement through effort.
- 2. They must set consistently high expectations and standards.
- 3. They must possess a growth mindset for learning themselves. Research highlights that beyond twenty-five years of age, it becomes more difficult to develop new neural pathways, and habits, biases and attitudes become more fixed and much harder to alter<sup>3</sup>.
- 4. They must approach learners using compassionate questions, guidance and mentorship tactics.
- 5. They must look for the signs of skills deficits in learners, which may manifest through behaviour not conducive to effective learning. They must address any deficiencies and action plan these appropriately.

#### **Educators and feedback**

Dweck's research reveals that delivering feedback, particularly through the use of language, has a huge influence on mindsets.

It is understood that praise for intelligence and praise for effort produce very different results. Praising intelligence conveys to learners that it is fixed and promotes fixed mindsets and their vulnerabilities. Praise for effort, and more specifically the learning strategies individuals use or hard work observed, encourages a growth mindset. Praise for effort also reinforces the behaviours required for learning success.

<sup>&</sup>lt;sup>3</sup> The 4 Underlying Principles Of Changing Your Brain

There are two types of feedback educators use which yield very different results:

#### 1. Comfort feedback

Comfort feedback might best be described as putting a plaster on a wound that won't heal. It might help for a short period of time before the wound inevitably opens again. This creates fixed mindsets.

## 2. Strategy-oriented feedback,

Strategy oriented feedback praises the process and not the individual. This encourages growth mindsets.

The diagram below offers examples of feedback language and its influence on mindsets:

## Specific, Strengths-based Feedback

Source: Mindset Works, Inc. Growth Mindset Feedback Tool adapted by Mindprint Learning for Growth Mindset Specific Feedback

## When they struggle despite strong effort...

Fixed I can't do this

**Growth** You are not there yet

**Growth** You are not there yet. Since you understand very well with visuals,

**Specific** let's draw a picture to help you understand.

## When they lack specific skills needed for improvement...

Fixed I give up!

**Growth** Let's practice so we remember.

**Growth** Let's practice a different way. Since you remember words easily,

**Specific** try describing what you see so it sticks.

## When they they succeed with strong effort...

Fixed Yes! I finished

**Growth** I am so proud of the effort you put forth

Growth I am so proud of the effort you put forth. I realize this is hard,

**Specific** but you were successful because you...

### Parents and Guardians

Parents and guardians have a powerful impact on their child's education. The feed-back language parents use is therefore equally as important, or arguably more so, than that of educators in fostering growth mindsets.

Parents and guardians were educated in a system with the commonly held belief that intelligence was innate. This is a critical factor which encourages fixed mindsets, and it is very difficult to change. Believing that intelligence is innate increases the risk that parents will attach fixed mindset beliefs onto their children unless they are educated on growth mindsets. Creating links between educators and parents is therefore crucial to generating the momentum required to change mindsets on a larger scale.

# 4. Advances in neuroscience and facilitating this knowledge-building for students can help support growth mindset development.

Two research studies which reinforce the growth mindset narrative are grit and neuroplasticity.

#### Grit

Angela Duckworth, key research psychologist on grit, conducted numerous studies and discovered what might seem obvious; students who tried hardest did best, and those who didn't try hard didn't do so well. Similar to growth mindsets, Duckworth confirmed that intelligence is only a small aspect of achievement in learning and that having the grit to persist through setbacks and failures is a driving force for success, not just in learning, but in other aspects of a person's life.

Duckworth defines grit as, 'sticking with things over the very long term until you master them' and further comments that 'the gritty individual approaches achievement as a marathon; his or her advantage is stamina<sup>4</sup>.'

Duckworth created a 'grit-scale' test in support of her research which has been used in various contexts outside of learning, including sports and the military. The grit scale assesses individuals on non-cognitive skills and traits and provides an overall grit score: The Grit Scale Test

What is most interesting in Duckworth's research is that some people with high intelligence scores don't necessarily succeed because they don't have high grit scores, while some people with lower intelligence scores and high grit scores are proven more likely to succeed.

<sup>&</sup>lt;sup>3</sup> Angela Duckworth and the Research on 'Grit'

## **Neuroplasticity**

Research in neuroscience has proven that our brain is malleable and capable of growing. Learning encourages the growth of new neural pathways by growing new connections, strengthening existing ones and insulating other neural pathways to support and speed up the transmission of impulses. Continued exposure to new experiences also grow our brain, which can capture them and store them to be used again<sup>5</sup>.

Similar to the growth mindset, realising our capacity to change our physiological circumstances supports a new learning narrative.

"Ultimately, you are the architect of your brain. When you change your beliefs, learn something new or become mindful of your habitual reactions to unpleasant emotions, you actually alter the neurochemistry and the structure of your brain."

Kyle Pierce

# 5. Maintaining a growth mindset requires continued self-monitoring and evaluation throughout one's life.

As the popularity of the growth mindset concept increases, it is common for individuals to label themselves with having one. These are people who believe the growth mindset is a target to reach, and once they think they have reached it, it is achieved and no more effort is needed. This self-labelling can lead to the development of false-growth mindsets.

There is no such thing as a pure growth mindset. We are a combination of fixed and growth mindsets which span across various aspects of our lives. This means we must work very hard to nurture the positive, growth aspects of our character, whilst concentrating on improving the negative, fixed beliefs that hinder learning and personal growth.

False Growth Mindset - Carol Dweck

<sup>&</sup>lt;sup>5</sup> Dr. Dweck's research into growth mindset changed education forever

"'A pure growth mindset doesn't exist, which we have to acknowledge in order to attain the benefits we seek.'"

Carol Dweck

We should not attempt to ignore any negative aspects of our character or learning, but rather confront them to improve where possible. Observing fixed mindset behaviours therefore challenges our beliefs which we should regularly assess and evaluate to understand their detriment on our learning and behaviours.

Having a growth mindset is a key requisite to increasing learning opportunities. The influence we have as adults on learners in a learning community, or at home as parents on fostering growth mindsets cannot be ignored. Strategies must be designed to support the potential of every individual through continued focus on nurturing growth. As individuals we should always be striving and challenging ourselves to become better versions of who we are, and as educators helping others do the same.

## **Act Now**

Cultivating growth mindsets relies on various areas of an individual's life, often beyond their control, being appropriately aligned to support them, specifically the learning community, educators and parents. This section sets out to formulate how to prepare and implement these key areas to create the optimum conditions that support the fostering of growth mindsets.

### **Students**

- 1. Be prepared to learn. Students must be encouraged to actively engage in the network for learning that has been set up to support them.
- 2. Support the learning community. Students must support their peers in the learning community and develop the skills to communicate growth-oriented feedback. Collaboration is greatly encouraged.
- 3. Ask for help and feedback. Students must be comfortable in asking for support and know where to seek feedback from a variety of sources within the learning community.
- 4. Challenge yourself. Students should be encouraged to challenge themselves by working outside of their comfort zone. Risk and failure must become regular experiences.
- 5.Use growth mindset language. Students must use growth-oriented phrases to support their learning. Examples include:

- I believe I can get better.
- 'I am not good at this... yet.'
- 'Mistakes can help me learn.'
- 'Today's effort is worth tomorrow's reward.'
- 'I need to keep trying for a little longer.'
- 'Who can I ask for feedback/advice?'

#### **Parents**

- 1. Learn about learning mindsets. Understanding learning mindsets can update their understanding of learning and how to approach it.
- 2. Foster a growth mindset. Parents must attempt to foster growth mindsets to practice what they preach.
- 3. Use growth language. Parents must respond to their children using growth mindset language. This will reinforce the language learning guides use to ensure consistency.
- 4. React positively to failure. A parent's reaction to their child's learning, particularly failure, has a huge impact on how they perceive their ability, which affects motivation. Parents must respond positively to all learning experiences, whether it yields failure or success
- 5. Communicate with the learning community. Parents must communicate with the learning community about any support they might need to develop growth mindsets.

#### **Educators**

- 1. Use effective feedback. The language to foster growth mindsets should be used consistently and supported by a variety of feedback strategies. They should ensure growth mindset language is widely visible in the learning community.
- 2. Look for collegial support. Educators should embrace a culture of support among all key actors. Support among educators should be transparent and used as an example for learners.
- 3. *Take risks*. Educators should encourage risk in all learning design and delivery experiences.
- 4. Create a challenging community. Educators must provide opportunities for individuals to grow their learning by being stretched.
- 5. Discuss growth mindsets, grit and brain plasticity. Educators must inform learners of existing research to develop growth mindsets, including information on grit and brain plasticity. Learning design experiences should support their development.

#### Leaders

- 1. Make growth mindsets part of the mission statement. Leaders must deliberately include growth mindsets for learning in their mission. The mission should be visible and regularly discussed to encourage its implementation.
- 2. Enable community and professional development. Opportunities to develop growth mindsets should be available for all key actors in the learning community, including parents and guardians.
- 3. *Insist on effective communication*. Parents are critical influencers on a learning community and leadership must create a culture of strong communication to be in regular contact with them to ensure support exists for all learners.

### Learning community

- 1. Create growth mindset learning experiences. Learning experiences must be active, reflective and foster the skills that learners require to succeed in the 21st century. Learners must learn how to learn, learn about growth mindsets, grit, brain plasticity and anything else in support of personal growth.
- 2. Ensure collaborative learning is present. Educators should facilitate learning experiences that communicates a culture of collaborative support.
- 3. Ensure risk is present and embraced. The learning community should praise risk even if failure is the result. This dissolves taboos that failure in learning is negative. A culture of risk encourages learners to take on challenges that stretch their skills.

# **Examples in Action**

This section includes research and case studies conducted over the past 30 years on growth mindsets. The examples demonstrate the impact they have on learning and how it significantly improves self-belief, confidence and personal learning growth.

#### Is Growth Mindset The Answer to Students' Mental Health Problems?

Clinical psychology researchers Jessica Schleider, Madelaine Abel, and John Weisz performed a very thorough review of 17 studies involving over 6,500 students and found that a fixed mindset was associated with more mental health problems in teenagers. When compared to their peers with a growth mindset, fixed mindset youth were 58% more likely to show more severe symptoms of anxiety, depression, or aggression.

## Fiske Elementary School Lexington, Massachusetts

A case study exemplifying how to best provide student feedback and praise to a diverse student population as a way to encourage greater student effort, resulting in gains in academic achievement.

## Learning How to Learn Using a Growth Mindset: Fiske Elementary School

Julie Verret, music teacher at Fiske Elementary, describes how a growth mindset helped her music students tackle a challenging piece of music. Julie applied the malleable mind concept to her music students as part of a school-wide growth mindset initiative led by the principal.

## Shifting Mindsets Cuts Suspensions in Half

Stanford researchers Jason Okonofua, David Paunesku and Gregory Walton recently published research demonstrating the power of teacher mindsets on student behavior. The researchers used a brief online intervention to encourage teachers to adopt an empathic mindset about discipline. This brief training cut the suspension rates at five middle schools by 50%!

# 'It's ok—Not everyone can be good at math': Instructors with an entity theory comfort (and demotivate) students

A research study exploring comfort-oriented and strategy-oriented feedback. Students responding to comfort-oriented feedback not only perceived low expectations from educators, but also reported lowered motivation and lower expectations for their own performance.

## Teacher Practices: How Praise and Feedback Impact Student Outcomes

A study conducted which explored the use of feedback to increase performance. Students praised for intelligence preferred to continue working on the easier tasks, while students praised for effort chose to progress to more challenging tasks.

## Lessons from the first round of the Mindsets & the Learning Environment Initiative

The Mindset Scholars Network's mission is to advance scientific understanding of learning mindsets in order to improve student outcomes and expand educational opportunities. It conducts original interdisciplinary research, builds capacity for high quality mindset scholarship, and disseminates the latest scientific knowledge through outreach to education stakeholders.

# <u>Implicit Theories of Intelligence Predict Achievement Across an AdolescentTransition: A Longitudinal Study and an Intervention</u>

Two studies explored the role of intelligence in adolescents' mathematics achievement. In Study 1 with 373 7th graders, the belief that intelligence is malleable predicted an upward trajectory in grades over the two years of junior high school, while study 2, where the belief that intelligence is fixed, predicted a flat trajectory.

# <u>Changing Students Minds and Achievement in Mathematics: The Impact of a Free</u> Online Student Course

A case study with results showing that the treatment group who received online

support to develop growth mindsets for learning, reported more positive beliefs about math, engaged more deeply in math in class, and achieved at significantly higher levels on standardized mathematics assessments than those who did not complete the course.

### Brainology for Schools

Brainology is a blended learning curriculum that teaches students how to develop a growth mindset. The program includes online animated instructional units, as well as offline classroom activities.

#### Schoolkit

SchoolKit is a suite of resources developed to cultivate a growth mindset school culture. It contains tools for administrators, teachers, and students to learn, teach and live the growth mindset.

<u>Students, teachers and leaders become lifelong learners in a whole school culture shift.</u>
This site offers educators and leaders advice on cultivating the road to growth mindsets.

# **Further reading**

The Power of Mistakes: Creating a Risk-Tolerant Culture at Home and School

The Language of Growth Mindset

How Do You Actually Develop A Growth Mindset?

Mindsets for the 21st century and beyond

Shifting Mindsets Cuts Suspensions in Half

Why Is It That Some People Don't Tend to Change?

What Having a "Growth Mindset" Actually Means

Neuroplasticity: Rewiring Your Brain For Optimal Learning

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What can you do to promote a growth mindset in students?

Talking About Failure: What Parents Can Do to Motivate Kids in School

The 4 Underlying Principles Of Changing Your Brain

Fixed vs. Growth: The Two Basic Mindsets That Shape Our Lives

<u>Is grit the true secret of success?</u>

Research every teacher should know: growth mindset

How Companies Can Profit from a "Growth Mindset"

How can mindsets be changed?

The Most Spectacular Failure

Designing an ecosystem for academic excellence: 7 elements to consider

How Do You Actually Develop A Growth Mindset?

**Even Geniuses Work Hard** 

25 Simple Ways To Develop A Growth Mindset

Take the Mindset Assessment to Learn More About Your Mindset

An Invitation to Grow

# Watch

The Science of Learning: How to Turn Information into Intelligence

Erika Hamden: What it takes to launch a telescope

Carol Dweck: The power of believing that you can improve

Eduardo Briceño: The Power of Belief - Mindset and Success

Video library on the growth mindset

Neuroplasticity: Growth Mindset

You Can Grow Your Brain (Neuroplasticity)

**Neuroplasticity** 

Angela Lee Duckworth: The power of passion and perseverance