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CHAPTER ONE

Fixed vs. Growth

The Aim of This Book

Growth mindset theory has gained popularity in recent years. The research has been around for some time, but, as teachers and educators have realised the potential for transforming how students think about themselves and their learning, so has the attractiveness of the ideas grown.

The aim of this book is very simple. To provide a wide range of practical strategies, activities and techniques you can use to develop growth mindsets in your classroom. While we will look at Carol Dweck's research in this introductory chapter, the remainder of the book will focus on pedagogy: the things you can do as a teacher to change how your students think about talent, ability and intelligence. One chapter is devoted to empowering parents but, that aside, the focus remains resolutely on teaching.

For me, this is important. Growth mindset research gives us the evidence we need to judge that this is an idea worth pursuing. Growth mindset theory provides us with a framework through which to think. But, as we all know, teaching is a practical business. We need to be able to bridge the gap between research and classroom reality. We need to take the ideas put forward by Dweck and her colleagues and turn them into the habits and actions of day-to-day teaching.

Nine chapters lie in wait for you. One looks at supporting parents, as mentioned. Of the other eight, seven focus on different areas of teaching and learning, areas through which you can promote growth mindsets.

And the eighth provides 175 ready-made growth mindset-style questions; 25 per area.

In all, the book contains more than sixty strategies, activities and techniques you can use to develop growth mindsets. For this reason, I hope the book might become a reference aid for you, a starting point in your growth mindset journey, as well as a place to return to when in need of inspiration or a new idea.

It should be noted that all of the ideas presented are suitable for use across the age ranges and the curriculum, albeit with some adaptation or modification being necessary in places. I have tried to provide a range of examples covering different age groups. However, if an idea is exemplified through only one age group, don't take this to mean that it is only appropriate for children of that age. You can take the idea and apply it in your own context – altering it as you see fit, based on your knowledge and understanding of the students you teach.

So let us now look briefly at the research behind growth mindsets, before linking this to classroom practice and then, finally, outlining the chapters to come.

Carol Dweck's Research

Carol Dweck is professor of psychology at Stanford University. Her research into motivation, personality and development led her to state and define the terms 'growth mindset' and 'fixed mindset'. Through her work she has developed the theory that individuals possess implicit theories of intelligence, with these sitting on a continuum running from growth mindset at one end to fixed mindset at the other.

Dweck's work suggests that those individuals currently operating from a fixed mindset believe that success is a result of innate factors, whereas those thinking through a growth mindset see it as a result of hard work, persistence, training and learning.

There are two key books written by Dweck that explore and explain her research. The first is an academic text called *Self-Theories: Their Role in Motivation, Personality and Development*. The second is a book aimed at a mainstream audience, called *Mindset: How You Can Fulfil Your Potential*.

I would recommend reading both. They provide excellent foundations for making changes to your teaching.

Lots of material is also available online, including video footage as well as text. Here is a collection of links for you to explore:

- ◆ mindsetonline.com/abouttheauthor/ - a biography of Dweck, a homepage for her book, and links to various articles
- ◆ teacherstoolbox.co.uk/T_Dweck.html - Geoff Petty's explanation of Dweck's theory of motivation and the implications for teachers
- ◆ www.ted.com/talks/carol_dweck_the_power_of_believing_that_you_can_improve - a ten-minute TED talk by Dweck
- ◆ alumni.stanford.edu/get/page/magazine/article/?article_id=32124 - an article looking at effort and Dweck's research
- ◆ nymag.com/news/features/27840/ - an article about the inverse power of praise
- ◆ <https://www.scientificamerican.com/article/a-surprising-secret-to-raising-smart-kids/> - an article by Dweck about parenting
- ◆ www.edweek.org/ew/articles/2015/09/23/carol-dweck-revisits-the-growth-mindset.html - an article by Dweck looking at how some of her growth mindset work has been misapplied in the classroom – and how to avoid this
- ◆ www.youtube.com/watch?v=QGvR_0mNpWM - a twenty-six-minute video of Dweck presenting growth mindset ideas
- ◆ www.youtube.com/watch?v=hiiEeMN7vbQ - a nine-minute video of Dweck: 'Developing a Growth Mindset'
- ◆ www.youcubed.org/ - a Stanford maths learning website heavily influenced by growth mindsets research

In *Self-Theories*, Dweck details a large number of experiments she and her colleagues conducted, looking at how students perceive themselves, their learning and what it is possible to achieve. She focusses on the idea that we possess theories of intelligence. That is, theories about what intelligence is, how it manifests and, therefore, how it can or can't be changed.

Two theories of intelligence are identified: entity theory and incremental theory.

The first accords with a fixed mindset perspective. The second accords with a growth mindset perspective.

Put simply, an entity theory of intelligence means you believe intelligence is a finite entity. Something you and everyone else possesses that is fixed and unchanging, differing from person to person. An incremental theory of intelligence means you believe intelligence is open to change – that it can grow incrementally depending on the actions you take, and that this is true of everybody.

Dweck notes in her research that the theory of intelligence under which a student operates has significant consequences. It influences – possibly even determines – how they are likely to respond in certain situations, what they are likely to see as being possible, how they think about themselves and the extent to which they enjoy learning and being challenged.

With this in mind, let us build out of Dweck's research and clarify precisely what we mean when we talk about growth mindsets.

What Are Growth Mindsets?

Mindsets are the set of beliefs we hold about ourselves and what is possible for us to do. These beliefs underpin and influence our thinking, which, in turn, gives rise to actions. When it comes to learning, students may have a growth mindset, a fixed mindset or a mixture of the two. In the latter case, this might see them having a growth mindset in certain subjects and a fixed mindset in others.

It is important to remember that mindsets are open to change. They are just thoughts, after all. So, for example, a student who currently has a fixed mindset toward math need not have this mindset in the future. Similarly, and less happily, a student with a growth mindset toward English may lose this if he or she suffers a bad transition from primary to secondary school.

Fixed and growth mindsets begin from a central premise. This is the central belief on which they rest. Conclusions are derived from this starting point. To put it another way, a series of further beliefs flow from the first belief.

The central premise of a fixed mindset is that intelligence, ability and talent are fixed and static. This is the entity theory of intelligence.

The central premise of a growth mindset is that intelligence, ability and talent can go up or down. This is the incremental theory of intelligence.

The following beliefs tend to follow on from the fixed mindset premise: effort is pointless; feedback should be avoided, as should challenges; it doesn't make sense to persist at something if you can't already do it; there's little point in thinking about your own thinking.

Notice how each of these beliefs follows logically from the central premise. If you believe that talent, intelligence and ability are fixed, then it makes sense to see effort as pointless. This is a logical conclusion of the central premise. Similarly, if you believe you cannot change, then why would you bother with feedback? This won't have any impact as what you have is what you have, regardless of what anybody else tells you to do.

The following beliefs tend to follow on from the growth mindset premise: effort is the path to mastery; feedback can help you develop and grow; challenges are learning opportunities and can be embraced; persisting at something helps you get better at it; thinking about your own thinking means finding ways to improve it.

Again, the beliefs follow logically from the central premise. If you believe that talent, intelligence and ability can go up or down, then it makes sense to see effort as a path to mastery. Similarly, it is logical to acknowledge that persistence can help you get better at something. The act of persisting allows you to practice, observe what works and what doesn't, learn from your mistakes and, as a result of all this, get better at the thing in question.

This leads to two conclusions. First, when we are seeking to promote growth mindsets in the classroom, we are seeking to promote to every student the central premise that talent, intelligence and ability can go up or down. Second, to do this we can focus on both this central premise and on the different conclusions that flow from it.

The Habits of a Growth Mindset

Students with a growth mindset begin with the belief that intelligence, talent and ability can go up or down. This tends to lead to some or all of the following habits:

- ◆ Effort is seen as a path to mastery. Students believe that by applying effort – and targeting it effectively – they can learn, develop and grow.
- ◆ Challenge is seen as something useful and is often embraced. Students understand that challenges push us to do more than we can currently manage. They appreciate that you can learn from challenges and that, over time, the challenge will become manageable and then easy.
- ◆ Mistakes are not necessarily loved, but they are seen as something from which you can learn. This is accompanied by the belief that failure is not the be all and end all. Instead, we can learn from failure, picking ourselves up and trying again.
- ◆ Feedback gives you information you can use to improve or develop your work. This does not mean that feedback is always received with relish, but it does mean that students are able to put emotional reactions to one side and make use of the feedback by applying it to their learning.
- ◆ Thinking is seen as open to change. As part of this, students see the benefit of thinking about their own thinking (metacognition). They understand that by attending to your thoughts you can identify what is working and what isn't, before using this to make changes, refinements and improvements.
- ◆ Persistence in the face of obstacles is a good thing. Students are more likely to persist when faced with obstacles. Their thinking is animated by the belief that effort leads to mastery and that you are in a position to alter what you can currently do. Therefore, persevering has benefits (and is likely to lead to good outcomes).
- ◆ Students are more likely to have a go at things and not fear the consequences of being wrong. They understand that we learn through trial and error. And they appreciate that you can't develop and grow unless you try new things.

When promoting growth mindsets in our classrooms, it is these habits we seek to cultivate. By doing so, we help students become more resilient. The process sees us developing their character as well as their knowledge and understanding.

Fixed vs. Growth

Cognitive psychology focusses on our thinking. It does not deny the impact of biological and genetic factors, but it does focus on cognition – how we think – as opposed to the influence of genes and biology. Cognitive psychologists suggest that our thinking has a significant impact on our behaviour. How we think influences what we do, the decisions we make and the consequences that follow.

When it comes to learning, the argument we can take from Dweck's research is that the mindset a student possesses underpins his or her thinking. For example, if a student believes that she simply can't do maths and that no amount of effort, persistence or perseverance will change this, then certain behaviours, decisions and consequences are likely to follow. On the other hand, if a student believes that he can get better at maths and that effort, persistence and perseverance have an important role to play, then different behaviours, decisions and consequences will follow.

This illustrates the extent to which fixed mindsets and growth mindsets are representative of two different ways of thinking about learning and your own potential for change. Students operating under a fixed mindset set an arbitrary limit on what they believe they can achieve. Students operating under a growth mindset set no such limit. This doesn't mean that these students believe they can achieve anything and everything. But it does mean they don't circumscribe their ability to act – and to benefit from the cumulative gains that stem from consistently acting in a positive and determined manner.

One way of cultivating growth mindsets is to think of it as akin to promoting a change in how your class, school or individual students think about learning. This thinking also indicates how effective embedding of growth mindsets takes time. This intervention is as much about forming new habits as it is anything else.

Those habits are habits of thought. Some of them are general, such as the habit of thinking that your abilities are open to change. Some of them are specific, such as the habit of persisting even if the work feels difficult. And some of them are about dealing with emotions, such as learning to separate emotional reactions from rational decision-making. To illustrate the last point, consider how a student can learn to put the

disappointment of failure to one side so that he or she can instead focus on using the information failure reveals. This habit of thought allows a student to learn from failure even if there is an emotional reaction attached to it.

Common Growth Mindset Myths

Growth mindsets are not a panacea. Dweck's research simply offers us a powerful lens through which to look at student thinking and learning, and to then try to effect change. The tenets of growth mindset thinking – seeing effort as a path to mastery, learning from mistakes, embracing challenge, using feedback, thinking about your own thinking – chime with much of what we would see as good classroom practice. Taking a growth mindset approach when teaching often means giving these things a bigger role, at the same time as we draw students' attention to how they are thinking about themselves and their abilities and, where appropriate, offer them an alternative story to tell.

As with any popular classroom approach, myths have developed. Here are the most common, along with a rebuttal.

- ◆ **Myth: Growth mindset theory just means saying 'yet'.** Using 'yet', as in: 'you can't do it yet...' is one technique among many. It does not constitute change on its own but is a useful starting point for altering the language of your classroom. We will look at this in more detail in chapter 2.
- ◆ **Myth: Growth mindset theory implies that everyone can be super successful at anything.** This is not the case. Growth mindset theory makes a much weaker claim, but one that is far easier to defend. It suggests that all students can learn, therefore changing their intelligence, talent and ability and that this is more likely to occur if students begin from a premise that their talent, ability and intelligence is open to change.
- ◆ **Myth: Growth mindset theory just means praising effort regardless.** This is not true. Instead, growth mindset theory means promoting the idea that effort is a path to mastery. However, we are talking about targeted effort, that is, effort that has purpose and direction. Praising effort regardless is

something different entirely. We will look at this in detail in chapter 4.

- ◆ **Myth: Growth mindset theory ignores biological factors.** Growth mindset theory focusses on cognition – the thinking students do. It does not examine biological influences because it comes from the cognitive school of psychology. However, this does not mean it denies the influence of biological factors.
- ◆ **Myth: Growth mindset theory means labelling students as having a fixed or growth mindset.** The central premise of growth mindset theory is that we are all open to change. Therefore, labelling is not to be welcomed as it presupposes a fixed state over which the individual has no control. Students have mindsets, which are open to change. The likelihood is that they will have different mindsets in different areas of their life, leading to a mixture of fixed and growth. A teacher's goal is to promote growth mindsets and the tenets that constitute this to help all students gain a sense of agency over their learning.

Performance Goals and Learning Goals

Here is a quote from *Self-Theories*:

“A performance goal is about measuring ability. It focusses students on measuring themselves from their performance, and so when they do poorly they may condemn their intelligence and fall into a helpless response.

A learning goal is about mastering new things. The attention here is on finding strategies for learning. When things don't go well, this has nothing to do with the student's intellect. It simply means that the right strategies have not yet been found. Keep looking.” (Dweck: 2000, page 16)

Performance goals create a zero-sum game. Students have a bar they must meet. They either meet it, or they don't. If they don't, as the quote implies, they may respond by assuming there is something wrong with them.

Learning goals are never a zero-sum game. They are an ongoing, continuous process. For this reason, they reflect the reality of life much more accurately than performance goals.