



HUNNYHILL PRIMARY SCHOOL

WHERE ALL THE PIECES COME TOGETHER

GROWTH MINDSET

The evidence base.

Over four decades and countless studies, Carol Dweck and other mindset researchers have provided empirical evidence that people with growth mindsets are more:

- Open to challenges and constructively critical feedback
- Resilient in the face of obstacles and initial failure
- Convinced that individual effort makes a difference
- Likely to attribute success and failure to their own efforts, rather than to their innate abilities
- Able to learn well with and from others
- Likely to rise to the top – and stay there.

And people with growth mindsets are *less* likely to cheat. There's no need: a poor performance is no reflection on their intelligence – it's simply an indication that they need to work harder or differently at that particular skill.

Little wonder that Dweck's work underpins some of the most powerful learning interventions in schools today, including formative assessment practices, Habits of Mind (Art Costa), Building Learning Power (Guy Claxton), etc

Why do mindsets matter?

Consider Rowan and Naz, two classmates of similar achievement levels and socio-economic background. You give them the same task. It's well-pitched, high-challenge, designed to stretch them, and loved by Ofsted (you've been on a training course!)

Rowan sets to with gusto. He's good at this sort of task and values his reputation as someone who gets things right, fast. He finds the task unusually tough and quickly becomes dispirited, worrying that he's coming across as 'slow'. He tells his classmates the task's 'boring' and he disengages from it.

Naz sets to with gusto. He finds the task tough and his intellectual arousal is heightened. His initial attempts lead nowhere and he laughs when he realizes he's going down a blind alley. He tries a new strategy and engages classmates in a task-focused discussion. He shows curiosity and tenacity and steadily makes progress.

From a comparable baseline, Naz's growth mindset will trump Rowan's fixed mindset, and these effects will become increasingly marked over time. Mindsets matter.





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Are mindsets measurable?

For Year 5 and 6 children for children for Teachers to try the quiz on pupils and bring back any results.

You have a certain amount of intelligence and really can't do much to change it	1	2	3	4	5	6
Your intelligence is something about you that you can't change very much.	1	2	3	4	5	6
You can learn new things, but you can't really change your basic intelligence.	1	2	3	4	5	6

1. Strongly agree
2. Agree
3. Mostly agree
4. Mostly disagree
5. Disagree
6. Strongly disagree





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The power of failure.

As a teacher, try to help your pupils to see all true learning as a rumbustious process of trial, error and eventual (and provisional) achievement.

Our failures – and those of our pupils – are *events*, not reflections of who we *are*. And all events invite us to learn. By reflecting on what lies behind our failures we can convert them into powerful learning experiences. Great achievers have done this across the centuries, sometimes at heroic levels.

First

Attempt

In

Learning

Mindset show and tell.

“I’ve missed over 9000 shots in my career. I’ve lost almost 300 games. Twenty-six times I’ve been trusted to take the game-winning shot.....and missed. I’ve failed over and over and over again in my life. And that is why I succeed”

Michael Jordan, basketball legend, from the Nike advert

1. Instruct your pupils to find out about someone who has achieved things through first failing or making mistakes. Ask them to research this person and to bring in a picture to show and a story to tell.
2. Ask your pupils to go away and think about time when they themselves made a mistake or failed at something but subsequently learnt from this. Ask them to bring a picture or an object which represents what happened and to be ready to tell the class about the event.

The value of challenge.

You already know that challenge is good. It underpins Ofsted’s descriptions of outstanding lessons and rightly so. Actually we’ve *always* known that challenge is a desirable constituent of a good learning environment. No one said it better or more succinctly than two researchers from the 1930’s

‘Children develop only as the environment demands that they develop.’ **Sherman & Key, 1932**





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Challenge and achievement.

Education Professor John Hattie has synthesised thousands of studies to see which school and classroom practices have most influence on pupils' achievement. His readings of the research literature leave him in no doubt about the value of challenge

The presence of challenging learning intentions has multiple consequences. Pupils can be induced to invest greater effort, and invest more of their total capacity than under low demand conditions. Such intellectual engagement involves a desire to engage and understand the world, have an interest in a wide variety of things, and not be put off by complex and challenging problems.

Challenge and its neuro-roots.

Researchers in fields like neuroscience are beginning to reveal just why high-challenge tasks lead to high achievement in all skill and knowledge domains.

We'll return to the neuro thing in the next section when we look at the role of sustained effort. For the moment let us keep in mind that learning anything involves laying insulation (in the form of myelin) around individual neurons in linked neural circuits, thereby increasing electrical signal strength, speed and accuracy (brainpower). The more insulation the better. And we build well-insulated neural circuits most efficiently when we deliberately and repeatedly practise activities that are just beyond our current level of accomplishment, refining and improving things as we go.

We need to encourage something called **deliberate practice**.

Deliberate practice – let your reach exceed your grasp.

The foremost researcher in the field of developing expertise, K Anders Ericsson, identifies the nature and role of deliberate practice in this way:

The key attribute of deliberate practice is that individuals seek out new challenges that go beyond their current level of reliable achievement - ideally in a safe and optimal learning context that allows immediate feedback and gradual refinement by repetition

So it's no good just practising things we've already mastered. Practise will not in itself lead to good learning and achievement – and it might have the unwanted effect of hardwiring faulty learning. We must focus on the tough stuff and let our reach exceed our grasp.

Challenge and mindset.

But how does the concept of challenge relate to children's mindset specifically? We've already seen from Rowan's aversion to a high-challenge task and Naz's embrace of it, that challenges are viewed differently by different people.

For those with fixed mindsets, challenges carry with them the prospect of 'failure' and the consequent 'exposure' of a limited intelligence.

For those with a growth mindset, challenges are ideal learning opportunities – a chance to extend their knowledge and skills beyond their current levels.

When children learn that sticking at tough, challenging tasks leads to changes to their brains that make them smarter, we have a way of disrupting fixed mindsets and reinforcing growth mindsets. Exciting new research is beginning to make this process visible.





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Neural responses to error

In 2011 Jason Moser and his colleagues at Michigan State University identified a neural mechanism that helps explain just why having a growth mindset helps you cope better with mistakes: a growth mindset is associated with *Pe amplitude* – a brain signal that reflects conscious attention to errors and improved subsequent performance.

When learners with growth mindsets encounter mistakes their electrical brain activity is far greater than those with fixed mindsets:

Growth mindset brains start vigorously detecting errors, processing errors and correcting errors. **Fixed mindset brains** seem to start tuning out corrective feedback and closing down neural activity when things get tough – feedback about errors seems too distressing for them to handle.

Tell your pupils about this research. It might help them to grasp how their brain actually behaves when they simply believe different things about it!

Linking challenge to pupils' experiences

Ask your pupils to brainstorm ways in which having a go and sticking at challenging tasks resulted in their achieving something they valued. Expect the following sorts of examples to arise:

- Learning to ride a bike or to swim
- Landing a holiday job
- Winning a school chess tournament
- Getting a high grade in a test and subject they find tricky
- Managing to juggle three apples
- Mastering number tables

Now ask them what's changed 'inside' them, as a result of this dogged practice – ie even when they're not doing the identified achievement.

Use the ensuing discussion to teach them that their neural circuits are now wired differently – and pretty much permanently: even if they don't ride a bike for a decade, they'll pick the skill up again very quickly when they do; the social skills they developed in landing a holiday job will come in useful again.

The power of failure.

"Fail. Fail again. Fail better"
Samuel Beckett

Whatever experiences your pupils recall from their own personal stories of achievement, repeated failures will have been a big part of it. In fact, learning only happens through reflection and acting on the experience of failure – otherwise we're simply practising past learning.

The philosopher and cognitive scientist Daniel Dennett makes a similar point in his book, *Intuition Pimps and Other Tools for Thinking*:

'[As a species]....we share the benefits our individual brains have won by their individual histories of trial and error.'





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He reveals his own growth mindset in the observation that admitting to errors holds no real horrors:

Generous-spirited people appreciate your giving them the opportunity to help. Mean-spirited people enjoy showing you up. Let them! Either way we all win.

Mindsets are brilliant!

'Mike once heard a famous musician speaking about teaching. **'Mistakes are brilliant!'** he bellowed, radiating energy and enthusiasm. The entire audience were emboldened, raised up and filled with power and potential. They were a group of school leaders; people who are constantly told that mistakes will not be tolerated. The change in the atmosphere was tangible. Mistakes were being recast as the greatest boon to learning and creativity ever imagined.'

You can tap into this same vein of thinking, inspiring your pupils to think big. Tell them that mistakes are brilliant. Make them believe it. You'll change their mindsets.

Wimbledon High School famously instituted a 'Failure Week' as one way of teaching their pupils about the power of failure. It has proved to be a hugely powerful experience for those involved, though not without controversy – we're suspicious of failure in our society!

Taken from the book : Growth Mindset Pocketbook by Barry Hymer & Mike Gershon





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“FIXED & GROWTH MINDSET”

Initials

Are mindsets measurable?

Thank you for taking part in this short questionnaire. Over the next term we will be looking at ‘Fixed and Growth Mindset’ with our staff, children, parents and governors. We will be holding a variety of sessions to share information and allow time for discussion.

It would be helpful to initial the questionnaire but it can be anonymous if you prefer.

Once complete, please put it in the silver box outside of my office.

Many thanks, Lynda.

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