

LEARNING WITHOUT FEAR

A Practical Toolkit for Developing Growth Mindset in the
Early Years and Primary Classroom



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For John, my dad. A template for life,
and the person who taught me to be fearless. – J. S.

To Ekta and Vibha; my sisters and best friends, who both, in their own unique way, have inspired me to believe that I have a voice worth listening to and who continue to provide the acceptance and safety needed to express that voice. – R. S.

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Teaching is an endless roller coaster of highs and lows, achievements and failures, fear-inducing moments of uncertainty and euphoric flashes of success, but I wouldn't change any of it, for within teaching I have found my fire and my passion, and the classroom has given me a space in which to thrive. It has been a privilege to share my experiences with other teachers and I am humbled that I have been able to express all that I believe about teaching in something as precious as a book. As a young girl I always aspired to write and illustrate my own text, so thank you to all at Crown House Publishing for putting your trust in us and for your unwavering patience. Thank you also to my writing partner, Julia, for pushing us to write a proposal, which we powered

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ANXIETY!



If I get this wrong
will they still think
I'm good?

INTRODUCTION

This is a book that has grown out of our experiences in the classroom, our further reading and our professional dialogue, so it seems logical to start by introducing ourselves. We're Julia Stead and Ruchi Sabharwal, and between us we have over 20 years' experience in the primary classroom, right through from Reception to Year 6. We share a passion for teaching and learning and, when we began discussing our pedagogy and practice – and realised the effect we were having on our learners – concluded that it was worth sharing our ideas. So we started writing this book. Here we each draw on examples from our own classrooms and experience, which are woven alongside insights from our wider reading and brought to life with Ruchi's colourful illustrations, which are available to download to use in the classroom.

One day, we were sat discussing the atmosphere in our classrooms. Ruchi reflected, 'So often in my classroom learning feels stunted because the children sat in front of me are scared. Scared to ask, to try, to question and to challenge. Scared of getting it wrong, of being slow, of looking stupid, of letting their teacher down and of being exposed as anything other than clever, right or "good".'

We agreed that every single pupil we've ever taught has experienced moments in which they were inhibited by fear, and some never quite got over it. But surely this wasn't good enough! We knew that these children hadn't always felt like this. As babies and toddlers, they were inquisitive explorers of the world around them, bold in their risk-taking and courageous when it came to pushing through failures and trying again. So what happened? At what point did the intrinsic curiosity of very young children become stifled? Was it in the classroom? Through exposure to competition? When did our pupils become self-conscious about their *ability*?

It was rather serendipitous that Ruchi stumbled across growth mindset in the work of Carol Dweck when she was sent on a course about teaching success.¹ She is so grateful to the perceptive head teacher who sent her on it, because that day changed her life, and she thinks the head knew that it would. It might sound dramatic but believe her when she says that sitting with a group of like-minded colleagues who challenged and

1 Carol S. Dweck, *Mindset: The New Psychology of Success* (London: Random House, 2006).

debated their own approaches to teaching and learning, and understood the impact this could have, gave her career a huge injection of agency.

Anyway, after discovering growth mindset, Ruchi started to think about her own fixed mindset and how this had inhibited her growth. Throughout her experiences in school, for whatever reason, she had convinced herself that she was not a mathematician and that she couldn't do certain things. So, of course, she never even tried. She would rather avoid something altogether instead of risking messing it up and, worse still, risking others finding out that she wasn't as good as they thought. What she realised through reading Dweck's work was that she was limiting her options because of her fear. This was a real light-bulb moment and she quickly realised how powerful it could've been if her own growth mindset had been nurtured at an early age. If she wanted to be a mathematician, there was no reason for her not to try and work at it. As it turns out, she absolutely loves teaching maths now and it's because she has worked hard, tried new approaches, developed new ways of teaching and learnt with her pupils. Before this, if you caught her on a maths course or in a meeting, she would've sat at the back – cocooned in her own fear of failing and avoiding questions at all costs. In fact, she probably wouldn't have even attempted to interact for fear of her colleagues seeing her flop and then immediately asking her to kindly leave the profession and close the door on her way out. If teachers feel that way, imagine how the pupils feel when they are quizzed on their seven times table and are expected to give an answer within three seconds! She revealed this fear to Julia, who, of course, had experienced the same feeling.

For adults, this feeling is often referred to as 'imposter syndrome', the psychological belief that despite proven competence and success, you are inadequate and that any achievements you have had have been down to sheer luck.² This leads to the fear that one day your luck will run out and you will be uncovered as a fraud. In schools, the threat of exposure is hard to avoid because teachers have nowhere to hide; our successes and failures are transparent to all and we are highly accountable. It is so important for teachers to embrace the mindset principles we are trying to encourage our pupils to adopt.

So, one course and countless books later, not only did the weight of our professional influence and moral responsibility truly hit us, but the fundamental belief that the link between mindset and success fed into all aspects of learning landed full-force too. We

2 Angela Watson, 7 Ways Teachers Can Push Past Imposter Syndrome, *The Cornerstone for Teachers* [blog] (12 November 2017). Available at: <https://thecornerstoneforteachers.com/truth-for-teachers-podcast/imposter-syndrome/>.

knew we had to develop ways of weaving this into every strand of classroom life, and we wanted to make sure that there was impact in our endeavour. This meant rethinking how we taught, understanding when to sit back and thinking carefully about our questions. Underpinning this was the sky-high expectations we held of *all* our pupils. So much so that they started to hold them of themselves. What we learnt during the two years that we dedicated to refining this approach with two classes of Year 3 pupils was that although children can be extremely resilient, this is too easily challenged; it takes very little to switch a child off from learning. We understood how quickly a learner can label themselves, feeling incapable or that they are not worthy or good enough. This can happen in a split second, in the middle of an English lesson on a Wednesday morning, when everything had been going fine and you least expected it. But the moment a child feels stupid is the moment they can become disaffected. It can be a fight to bring them back if you don't notice and act quickly.

On the other hand, we also learnt – and wanted to share with others, hence the motivation for writing this book – that through flipping your thinking, by bringing everything you do back to learning, by modelling success and failure, and by letting go and giving your pupils opportunities to explore, you can achieve some truly amazing things together. Through careful planning, differentiation and assessment you have the absolute power to transform learning behaviours. It is not always easy and we face challenges that can get in the way sometimes, but it is very possible and the strategies for doing so are in this book.

The words, 'Have a growth mindset!' were rarely used in our classrooms. Instead, what we developed was a little learning community, in which children genuinely felt pride when they tried, regardless of the outcome. This was the first stepping stone to making our pupils braver. When they felt brave, they wanted to be challenged, they wanted to be independent and they wanted to know how to get better. The biggest achievement with our classes was in nurturing positive relationships, and in how well all the children worked with each other. There was no fear of competition: over time, through our classroom communities, we learnt each other's strengths and used collaboration as a conduit to improvement. The more we worked together and allowed space for everyone's ideas, the more confidence emanated from even those pupils who had never experienced this feeling before. Over time, through the methods outlined in this book, pupils who previously felt too anxious to share their answers felt safe enough to participate, and everyone wanted to listen. We are so proud of these pupils and, although we've been teaching for many years between us, we feel that we learnt an awful lot from them too.

Although growth mindset has been talked about in education for long enough now that most teachers and schools see the benefit in adopting the principles, what we really want you to take away from this book is that relationships really do lie at the heart of everything we do in the classroom. Forget posters about how great mistakes are, and superficial encouragement about perseverance. Changing a *mindset* goes so much deeper than taking some ideas from Twitter or Pinterest. Here you will find a practical model that you can use to start embedding some of the qualities associated with a growth mindset. But hopefully this is just the starting point for you and, together with your class, you will discover your own nuggets of greatness and success that will form the basis of your very own learning community. We urge you to continue the legacy and share any successes, no matter how small, with your colleagues because you might just light the spark of an ember that was already glowing and – without even realising it – inspire someone else to take a risk.



Chapter 1

BRAIN VS MINDSET

Imagine for a moment that you are learning to drive for the first time (if you've never been behind the wheel, stay with us, there's plenty for you later). Although you are determined, you are having problems with the accelerator and the clutch. You know that you can't engage them both at the same time – your instructor keeps barking this at you every time you stall – and yet your feet are not receiving this message. Your nerves are increasing, you feel hot and sweaty, and you're gripping that steering wheel like your life depends on it. *Left foot down, first gear, right foot on the accelerator, slowly raise my left foot off the clutch, handbrake off and we're moving. Now into second gear, left foot down ...* and you've done it again. The engine is off, your instructor has that now-familiar look of exasperation and you've sworn off driving for life.

So what now? What is the single most important thing you can do to try to overcome this obstacle?

Persevere!

Believe in yourself!

Bounce back!

Try again!

Practise!

Work harder!

(Altogether now:) Have a *growth mindset!*

Well, yes to all the above, but the answer is much simpler and more practical. First, in order to rectify your mistake, you need to recognise *where* you are going wrong and *why*. The only way to do that is to widen your knowledge and understanding of the car. The key to improvement is to take an active role in your own learning, starting with the clutch and understanding how it works. Okay, so accessing and processing this

information isn't going to miraculously make you a perfect driver, but it *will* get you thinking, noticing and, in time, self-correcting. Even if you think you are not mechanically minded, it doesn't matter; you don't need to be an expert. During the first stages of the learning process, holding a rudimentary understanding of the mechanism is enough of an insight to get you through the difficulty.

In the early days of learning to drive, long-term 'mastery' knowledge of engineering is not necessary. Noticing a few distinct engine sounds, knowing when the gear needs changing and identifying the point at which to put your left foot down all goes towards increasing your confidence, and is enough to get you through the basics. In time, your confidence with and control of your vehicle will grow. You will probably gain a better understanding of your car and how to get the best out of its functionality – for example, why the quality of fuel affects the performance, why a consistently lower speed is more efficient, and so on. The more we know about what is going on with the machine, the more we know what to do in order to optimise our driving and the performance of the car. Formula One drivers, for instance, have a far greater understanding of how to optimise their vehicle than the average driver does.

Greater understanding of the car = using the car more effectively = better driver

That's all well and good but we promised you a chapter on the brain and mindset – not on racing – so what on earth does driving have to do with that? Well, the chances are that you are reading this book because you are passionate about teaching and learning, you want to teach your pupils in a way that makes them successful lifelong learners, and you are curious about how to utilise the concept of growth mindset in order to do that, right? Driving a car is an analogy for the only logical place from which we can start to unpick mindset: the brain. The basic principles of neuroplasticity – meaning that the brain can adapt, change and form new connections in response to its environment – are the foundations of mindset theory and, hence, it's crucial to start our journey here.

Non-drivers still with us? Let's take the body and its organs and systems. While deepening our understanding of the digestive system won't have any direct impact on how hungry or satiated we are, engaging our brains to understand what types of food will keep us fuller for longer allows us to make informed choices about what we put into our bodies to ensure we feel full and satisfied.

Greater understanding of bodily functions = improved choices about how we use our body = healthier and more effective human

In the same way, if we can engage our brains to *learn about* our brains – this is metacognition, which we'll discuss in more detail later – we can start to: actively exercise, change and shape how our brains work; take control of our 'abilities'; and revolutionise the effectiveness of our learning. It's pretty powerful stuff, almost magical, especially when we realise that we each have the potential to physically expand our neural pathways and change the way in which our brains perform.

Greater understanding of the brain = using brain processes more effectively = better learner

GREY MATTERS

First off, let us reassure you that, as complicated as it may sound, you don't need to be a neuroscientist to understand or teach this next bit. If you have studied science or psychology, you can feel very smug at this point as you probably already know what we're about to say, and we apologise in advance if this explanation is slightly rudimentary. When we first started reading about mindset, we found many in-depth, scholarly articles on learning theories and although the research into neuroplasticity was fascinating, we needed to break it down further for our own comprehension. So we shall attempt to do that here.

The human brain is an extremely complex and amazingly powerful organ, which functions as an intricate network, with each synaptic link charged and able to reorganise itself by forming new connections between existing brain cells. It has the capacity to shift and develop by absorbing information quickly. We've often heard the brain referred to as 'elastic', 'stretchy' and 'malleable' and this is the essence of neuroplasticity. It describes the long-lasting functional shifts in the brain and its, rather outstanding, ability to change or 'rewire' its neural pathways.

Hang on, what's a neural pathway?

Okay, good question. Put your thinking caps on, we're going to go a bit deeper.

Neurons are nerve cells in the brain that carry information in the form of tiny electrical signals. Neurons carry signals and impulses and this allows us to process sensory information. Neurons communicate with each other by sending chemicals called neurotransmitters across small gaps called synapses in order to form connections. If we use the same synaptic connections often enough, we form a brand-new neural pathway. It's very sophisticated stuff, a bit like the World Wide Web only even more important.

Neuroplasticity works through neurons firing and fusing, and this happens throughout our lives through our experiences, through learning new things and through memorising new information. The brain is exceptionally good at adapting. When it experiences something new it responds to sensory stimulation by reorganising the neural circuitry, and a change occurs in its structure. In other words, through specific use, we can actively *grow* our brains (cue gasps from the audience). Pretty amazing stuff.

As we get older that huge brain-growing potential depletes, and only the stronger connections that we use more frequently remain. Think of it as 'synaptic pruning' in which only the strongest links will survive.¹ The brain is very resourceful and will filter out what it thinks is irrelevant, especially information that we don't regularly use. Obviously, this explains why Ruchi can't really remember much of her undergraduate dissertation. Use it or lose it, as the saying goes.

Neuroplasticity occurs during specific phases:

1. During the early stages of development as the immature brain organises itself. This explains why babies, toddlers and young children are able to learn and retain so much, so quickly. Earlier in our development, it is easier for the brain to form new connections. These are also the ones that tend to stick the longest.
2. In adulthood whenever something new is learnt, repeated and memorised.
3. In the case of brain injury to compensate for lost functions. If necessary, the brain is able to dedicate its resources to specific functions and, at times, rewire itself to compensate for the damage done.

¹ Edalmarys Santos and Chad A. Noggle, *Synaptic Pruning*. In Sam Goldstein and Jack A. Naglieri (eds), *Encyclopedia of Child Behavior and Development* (Boston, MA: Springer, 2011), pp. 1464–1465.

4. In response to genetic factors, the characteristics of our environment and, most significantly, our own actions.

As an interesting anecdote, upon asking Ruchi's non-teaching sister to proofread the above, she patiently complied and after a couple of minutes said, 'I think I get it, but I'm going to have to read it a couple of times. It's just the way my brain works; I don't understand things like that straight away.' Ruchi smiled knowingly and told her that she was, in some ways, the target reader for this book. Her understanding was nothing to do with her brain, but rather what she thinks and believes about her brain. Through her idea to reread the section a few times, she showed excellent growth mindset potential – practice is a key trait, as you will find out later. But to help you (and Ruchi's sister) out, let's think of it another way.

Imagine a country park, with ponds, pathways through the woods, a few fields, a picnic spot, etc. Got it? Okay, now visualise it as a dynamic, living organism, shifting and changing as more and more people use it. Children start exploring different ways through the wood – they carry sticks to make dens and this forms new offshoot paths. A new path appears from the pond to the picnic area. Because these appealing little paths become well-trodden by inquisitive wellied feet, people start using them instead of the original ones. Eventually, the original paths get overgrown and nobody remembers they were there.

With us so far? Hold onto your hats.

Neuroplasticity offers us an explanation of what happens in our brains whenever we are doing anything new. Everything we do is shaping and changing the brain as it responds to the information the five senses give it. Imagine how much change we could bring about by being *aware*, by giving it the rich and diverse information it craves in order to evolve in such a dynamic way. We could say that neuroplasticity explicitly refers to one aspect of the science of how our brains work – and their ability to transform – while mindset refers to our psychology, or our beliefs about how our brains work.

This makes more sense when we look at how neural pathways were previously understood. Until we started unpicking mindset and the effect on learners, it felt natural to assume that as we aged, the connections formed in our brains remained fixed. Have you ever tried to do something that you haven't done for a long time and someone helpfully comes out with, 'It's like riding a bike, you never forget!' Well, actually, you can and, as it turns out, it's completely normal to forget how to split the bill for dinner

five ways if you haven't done mental maths since your GCSEs ten years ago. Blame synaptic pruning.

Plasticity is the brain's wonderful gift of changing through learning and it completely debunks the idea that ability or learning is fixed and unchangeable. In fact, those pathways adapt specifically to what we think and do. The neurons ignite and the synapses fuse whenever we learn, practise or master new skills. And guess what? You can help this to happen by allowing your mindset to change and believing that you can change your learning outcomes. The more you practise something tricky, the more likely it is that a new neural pathway will form. Persevere and it will become even stronger. Your tenacity and resilience aid the formation of a well-trodden path in the country park.

This theory is backed up by a notable comparative study which looked at the brains of London taxi drivers and London bus drivers. Through brain scans, scientists observed evidence of neuroplasticity and found that taxi drivers typically had a larger hippocampus – the part of the brain involved with storing long-term memory, knowledge and experiences – than the bus drivers did. This was because the taxi drivers had regularly exercised this part of the brain in order to form an extremely comprehensive mental map of London, which they needed in order to perform their job effectively. Bus drivers were used to restricted routes and didn't need to make as many spatial or locational connections as their counterparts in the study.² It seems the test that London cabbies have to take is not called 'the Knowledge' for nothing.

This investigation is one part of an extensive body of research which concludes that the brain is like any other muscle in the body: it develops, strengthens and improves the more it is used. This leads to the development of new neurons and the formation of new neural pathways – also known as neurogenesis, to give it its superhero name. Neurogenesis can be simply defined as the growth and development of nervous tissue. When you become an expert at a specific skill, or develop a particularly deep knowledge base, the areas in your brain that deal with this type of processing will increase in size – like the hippocampi of the London taxi drivers – all because of the formation of the new pathways.

2 Eleanor A. Maguire, Katherine Woollett and Hugo J. Spiers, London Taxi Drivers and Bus Drivers: A Structural MRI and Neuropsychological Analysis, *Hippocampus*, 16(12) (2006): 1091–1101.

HAVING A GROWTH MINDSET CAN REALLY EMPOWER YOUNG LEARNERS TO TAKE RISKS TO EXTEND AND DEEPEN THEIR LEARNING.

THERE IS, HOWEVER, MORE TO IT THAN SIMPLY ADDING 'YET' TO 'I CAN'T DO THIS'.

In *Learning without Fear* Julia and Ruchi tackle this misconception head-on, combining bite-sized theory with the practical tools and techniques that will enable teachers to map out their pupils' growth mindset journey from the early years up to their departure for the challenges of secondary school.

The book features tried-and-tested lesson ideas, questionnaires and examples of outstanding practice taken from the authors' own very successful classrooms – all colourfully packaged into a complete toolkit that illustrates both the 'why' and the 'how' of successfully embedding growth mindset in early years and primary settings.

Suitable for both newly qualified and experienced teachers of learners aged 3–11.

Learning without Fear will be incredibly useful for primary school teachers. An absolute gem.

Mary Myatt, education adviser and author of *The Curriculum: Gallimaufry to Coherence*

A really valuable resource which will spark debate and discussion among staff teams and help teachers to reflect on the language they use and the behaviours they model in school.

Ruth Swales, school improvement adviser and education consultant

This delightful publication shares a bank of powerful and easy-to-follow lesson ideas which, together with the rest of the book's content, will help educators develop in their learners a growth mindset that will benefit them both in school and beyond.

Shirley Clarke, international formative assessment expert

A must-read for anybody working with children, *Learning without Fear* offers a fresh approach to looking at growth mindset and provides a whole host of excellent ideas, resources and practical examples. Can teachers make a change? With this book, yes they can!

Graham André, teacher, Lanesend Primary School, speaker, #PrimaryRocks organiser and eduTwitter influencer

Julia Stead is a teacher and key stage leader with over a decade of experience in the classroom, having taught from Reception right through to Year 5. Julia has written for various educational publishers on topics such as the recent changes in primary education, how specialised toolkits can be designed for whole-school impact and how to create whole-school CPD packages. She has also presented at national CPD events.

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