Behavioural Insights for Education

A practical guide for parents, teachers and school leaders

Fionnuala O'Reilly,
Dr Raj Chande, Bibi Groot,
Michael Sanders and Zhi Soon

Open Ideas at Pearson

Sharing independent insights on the big unanswered questions in education

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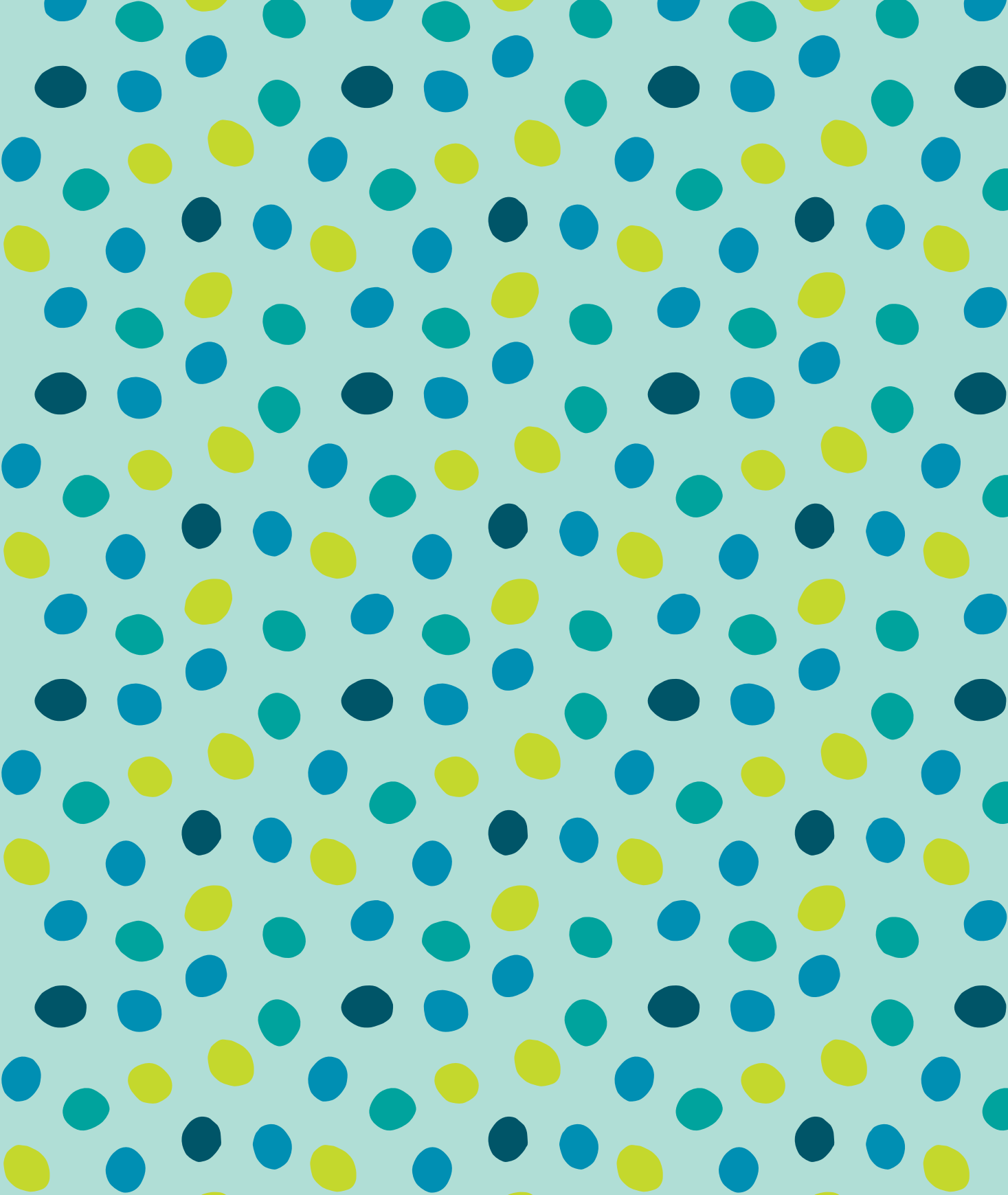

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Suggested reference: O'Reilly, F., Chande, R., Groot, B., Sanders, M. and Soon, Z. (2017). *Behavioural Insights for Education: A practical guide for parents, teachers and school leaders*. London: Pearson.

ISBN: 9780992425845

Designed, illustrated and typeset by Soapbox: www.soapbox.co.uk

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About the Behavioural Insights Team

The Behavioural Insights Team (BIT) applies more realistic models of human behaviour to policymaking, with the objective of helping citizens to make better decisions for themselves. BIT started life in 2010 in the UK Prime Minister's office and is now a social purpose company jointly owned by its employees, Nesta, and the UK Government. BIT's work spans almost every policy area and it has over 100 employees across its offices in London, Sydney, New York, Singapore and Manchester.

About the authors

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Acknowledgements

The authors are grateful to several people for their helpful comments on previous drafts of this guide. At BIT, we would like to thank Jessica Barnes, Owain Service, David Halpern, Pantelis Solomon, Lal Chadeesingh and at Pearson; Kristen DiCerbo, Mark Griffiths, Owen Henkel, Amar Kumar, Sophie Matsubara and, particularly, Dan Belenky who provided feedback, expertise and insight throughout the development of this paper. We owe thanks to Karine George for bringing her expertise as a head teacher to bear in her feedback on an early draft. We'd also like to thank Laurie Forcier and Vikki Weston from the Pearson Open Ideas team who have been instrumental in the publication of this guide. Finally, we would like to thank the designers, Soapbox, for their work on this publication.

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Foreword by Dr David Halpern

There is something very exciting – even inspirational – happening in education right now. Several strands are coming together that are quietly revolutionising how we think about, and go about, learning and teaching: in the classroom, and at home.

First, behavioural science has made great strides in recent years, helping us to understand how subtle differences in what parents and teachers do can make an enormous difference in the learning process. Second, a new wave of experimentation is overturning many assumptions about what does and doesn't work. Third, these developments are being accelerated by insights born of data analytics, offering the promise of unprecedented tailoring of what works, when, and for who.

It's very hard to legislate to make our children pay more attention in class. Acts of Parliament can't flick a switch to make our kids more motivated. The work of the Educational Endowment Foundation (EEF) gives a glimpse into an alternative approach, and into how the world of education is changing. Though only founded in 2011, the EEF has supported more than 130 large-scale trials in more than 7,500 schools in England (more than 1 in 5 of all schools in the country). This work has generated powerful new insights into effective practice. It has documented how different ways of giving feedback to children can boost attainment by the equivalent of up to eight months' extra schooling,[1] or how teaching an hour of philosophy to young children leads to an additional two months' progress on reading and maths.[2] This next-generation research, and the researchers and teachers that underpin it, has also shown that some popular and seemingly intuitive interventions turn out not to be very effective at all, such as school uniforms, repeating a year, or aspiration interventions. In short, education is starting to adopt the kind of empiricism that swept through medicine half a century ago.

This new body of research strongly echoes, and often draws on, recent findings from behavioural science.

While policymakers and educational researchers have traditionally focused on big 'structural' factors, such as class sizes or budgets, behavioural scientists have instead been looking at the details of what parents, teachers and school leaders say and do. This has identified a treasure trove of powerful insights

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instead been looking at the details of what parents, teachers and school leaders say and do. This has identified a treasure trove of powerful insights.

Outside of education, behavioural insights have helped jobseekers return to work faster (by getting them to focus on next week, rather than last); improved diversity in recruitment (sometimes by adding a single line before a test); and boosted the pension savings of millions (by changing the default from an 'opt-in' to an 'opt-out').

This current report by the Behavioural Insights Team and Pearson, offers an accessible summary of this new generation of empirical behavioural science applied to education. It provides practical pointers and strategies that teachers and parents can use now to help students learn. Some of these insights and strategies feel intuitive, at least in retrospect. You may recognise some of them from the styles of the most effective teachers and parents. But chances are, you will find at least some of them new and surprising.

Our BIT researchers have tried to write this document in a way that is easy to understand – you certainly don't need behavioural science expertise, though hopefully you will pick some up. The findings draw on multiple studies and experiments. We have also included some promising new techniques. Where these feature, we have been careful to point out their status as promising, but not yet proven. If you find them helpful, do let us know!

I am a parent too – my younger son is coming to the end of sixth form as I write. I also taught as a university lecturer for quite a few years. As this research has emerged and hardened over recent years, I have often wondered whether I did it right. Not always, for sure. It would have been great to have had this document then.

Finally, let me thank Pearson, and Sir Michael Barber in particular, for his support with this project. We are passionate about the potential of behavioural science – the study of how people think, feel and behave – combined with empirical approaches, to help us improve public services and the human condition. And where better to start, than with helping students of all ages to learn?

David Halpern
CEO, The Behavioural Insights Team,
and National What Works Adviser

Foreword by Sir Michael Barber

I started my career as a teacher in the late 1970s in a state-funded school just north of London. In those days you simply qualified and started teaching. You were unceremoniously shoved through a door and left to your own devices. Back then we didn't know much about what worked, and when we found something that did work, we didn't know much about why it did.

Since my first forays into teaching I've spent a lot of time, in the education sector and with governments around the world, advocating for the value of measurable outcomes and the use of evidence to inform decision-making.

My colleagues at Pearson and I have spent the last five years working out how to measure the outcomes of our products in the pursuit of ensuring that we are helping learners to be more successful. Throughout, I've followed the work of the Behavioural Insights Team (BIT) in collaboration with the UK government with great interest. Since 2010, they've applied insights from behavioural sciences to sectors including health, employment, and finance, testing simple, low-cost interventions, some of which have made a surprisingly large difference. In this current publication, the BIT once again demonstrate their commitment to rigorous research, careful experimentation and the use of evidence to inform practical recommendations for use in classrooms and schools, as well as at home.

Given the innovation (and success) they have previously demonstrated, I couldn't be more pleased that the BIT have partnered with Pearson on this primer of what behavioural insights can offer learning. I use 'learning' here, and not 'education' because this work encompasses much more than what happens in classrooms and schools – improving learning outcomes for all is not a responsibility that rests solely with teachers. Many parents underestimate the impact they have on their children's success in education, and even those who recognise the importance of their role often don't have the tools or knowledge to effectively support their children as learners. To echo David's sentiment – I too wish this publication had been available when I was parenting school-age children – chiefly, because of the focus on actions that parents can take in their day-to-day interactions with their children, as well as activities teachers can undertake in their classrooms.

Importantly, the third section of this publication is devoted to school leaders. They are a key factor in the success of a school, the effectiveness of their teachers and, consequently, the success of their students. The suggestions in this section,

address primary concerns of school leaders worldwide; finding, supporting and retaining their teachers.

The activities suggested by the authors throughout this practical guide do not require specialist skills or knowledge, just a willingness to try. These activities do not constitute, of course, a silver bullet that will transform every student into the best learner they can be, but they do provide parents, as well as teachers and school leaders, with some simple ideas and tools that they can use to support learning.

Sir Michael Barber
Chief Education Advisor, Pearson

Introduction

In the UK, students do worse in their final official exams when there is an international soccer tournament taking place, particularly boys.[3] Some students appear to study less and sacrifice their exam results, which can have an enormous impact on the rest of their lives – the potential cost to their lifetime earnings is in the tens of thousands of pounds. All this, just to watch a sporting event live on TV.

If you're a parent, an educator, or you work with young people, this study may not surprise you. You may already know that students can get caught up in the here and now, sometimes neglecting to think about what today's decisions mean for tomorrow. You may even think that while our decision-making improves as we get older, we're hardly perfect as adults. We may still struggle to get our work done during the World Cup, to resist dessert when we're trying to eat healthily, or to get out of bed early on Sunday to go for a run.

Behavioural science, which includes fields like behavioural economics, social psychology and anthropology, can help to explain young people's behaviour and in some cases, how we can change behaviour to help students achieve their goals

Behavioural science, which includes fields like behavioural economics, social psychology and anthropology, can help to explain young people's behaviour and in some cases, how we can change behaviour to help students achieve their goals

Researchers are increasingly interested in these kinds of human behaviours and in particular, why young people behave the way they do. To this end, this guide suggests a number of ways parents, teachers and school leaders can use behavioural science at home and in school. The techniques we suggest focus on building 'non-cognitive skills' (sometimes called 'character skills' or 'soft skills') like perseverance, emotional intelligence and creativity, which help to mobilise intelligence so that students can achieve the goals they set themselves.

The first chapter is for parents. We describe recent findings which might help parents to better understand their child's behaviour and then suggest activities which may benefit not only their child's schooling, but their general development too. We then show how behavioural science is helping us to understand what works in the classroom. We know that teachers already work incredibly hard to organise their lessons, so we have put together some practical tips for teachers to integrate insights from behavioural science into what they already do. Lastly, we show how behavioural science can help school leaders to run their schools more effectively. You will find several fictional examples throughout the guide to illustrate how these approaches could be used in real-life situations.

SECTION 1

Behavioural insights at home

1. **Helping children to develop positive thinking patterns**
    1.1. Thinking about thinking
    1.2. Understanding the value of effort
2. **Helping children to develop strategies to succeed**
    2.1. Staying focused
    2.2. Persevering towards long-term goals

There is a lot of truth behind the old mantra that 'education begins at home'. Parental attitudes and behaviours towards children's learning, from infancy through to adulthood, contribute to academic success.[4] A stimulating and supportive home learning environment, in which parents play, listen, talk and read with their children contributes to achievement in school, success in the labour market and overall wellbeing.[5] In this section, we discuss how parents can help their children to develop non-cognitive skills by cultivating positive thinking patterns and creating strategies for success.

Helping children to develop positive thinking patterns

Parents play a crucial role in fostering positive thinking patterns in their children. By positive thinking patterns, we do not simply mean having an optimistic outlook on life. Instead we mean a person's ability to understand their current knowledge, to be comfortable with questioning both themselves and others, to seek answers, to pick themselves up after setbacks and to persevere through times of uncertainty.[6] The techniques described below can be used by parents to help their children develop these skills.

Thinking about thinking

METACOGNITION
The ability to reflect on one's knowledge, behaviour and thoughts, and to alter one's conduct so as to achieve personal goals.

Recent research increasingly shows the importance of metacognitive skills.[7] **'METACOGNITION'** means understanding one's own thought processes, or 'thinking about thinking'.[8] People with strong metacognitive skills can think independently, reflect on previous actions and change their behaviour if something is not working for them.[9]

Parents can help their children to develop metacognitive skills by prompting them to think about what they know and don't know, before helping them to plan how to fill the gaps in their knowledge.[10] For example, imagine an eight-year-old student, Tom, who is excited to tell his mother how he learned about the solar system at school on Wednesday. Tom lists several new facts he picked up in class. As well as responding enthusiastically to Tom's new-found knowledge, Tom's mother could also prompt him to wonder about something new. If Tom knows that Earth is a planet and has one moon, she could ask "What other planets are there? Do they have moons too?" Tom might then come up

with questions of his own like "Do all planets take the same time to go round the sun?" Tom's mother can encourage him to think of more and more questions and then plan how he's going to try and answer them.[11] Positively appraising questions with expressions like "That's a great question, why don't you look it up and tell me what you find?" can also promote intellectual curiosity and metacognitive skills.[12] Teaching children the tools to assess and expand their knowledge is a skill that could help them during their years in education as they encounter more difficult topics.

Parents can also use everyday conversations to develop their child's metacognitive skills just by asking questions that inspire curiosity.[13] Many families already catch up on the day's events and plan upcoming activities at the dinner table. For example, the Evans family where the children are not only asked what they learned at school that day but also questions like "Did you wonder about anything new today?" and "How could we find that out?" Family dinners may not be a daily or weekly event in every household but, when opportunities to sit down together do arise, parents can use these techniques to make the most of them.[14] *

*Family dinners may have benefits beyond learning. For example, teenagers from households where family dinner is a regular event are less likely to engage in high-risk behaviours such as substance abuse, sexual activity and binge eating. However this is just a pattern found by researchers and doesn't mean that more family dinners necessarily guarantees good behaviour!

Understanding the value of effort

MINDSET
A broad set of beliefs about the world which forms the backdrop for the decisions we make and how we behave in life.

Parents can use **'MINDSET THEORY'** to foster positive thinking patterns in their children. Professor Carol Dweck, a psychologist at Stanford University, and her collaborators have spent decades studying why people succeed and more specifically, how mindsets contribute to success in areas like education,[15] health[16] and relationships.[17]

The key message of mindset theory relates to how we interpret struggles. If we find something hard, does this mean that we don't have the talent to succeed and should just move on to something else, or can these challenges be overcome with effort? If we have what Professor Dweck calls a 'fixed mindset', we tend to believe that we are born with a fixed set of skills which are more or less unchangeable. If talent is all that matters, then practice may not make much of a difference. With this mindset, a student who is struggling with algebra may think that they don't have the natural ability to understand it and decide to concentrate on other things. On the other hand, if we have a 'growth mindset', we believe that our abilities are shaped not just by our talents, but also by how much effort we put in. A student who finds algebra difficult, but has a growth mindset, understands that struggles are a normal part of learning. If they keep going, their ability will improve.[18] Later in this section, we'll discover the potential benefits of a growth mindset, and the neuroscience that explains why a growth mindset makes sense.

Mindset theory doesn't just apply to academic ability. We reveal our mindsets whenever we talk about success. For example, consider the American swimmer Michael Phelps, the most decorated Olympian of all time. We can all marvel at his indisputable talent, but those with a fixed mindset might stop there. Those with a growth mindset will also applaud Phelps' astonishing training regime and all the effort he put in to earn his medals. Those with a growth mindset see not just the talent, but the effort too.

It's helpful for parents to understand their own mindsets as their behaviour can shape the mindsets of their children.[19] Parents can assess their own mindsets using the scale on the next page. Don't worry if you tend towards a fixed mindset, that's not uncommon. In fact, many people find they have a fixed mindset about some things and not others.[20] For example, someone might have a fixed mindset about chemistry, but not cooking. Developing a growth mindset will take time. The rest of this

HOME EXERCISE

Understand your mindset[21]

You can use this exercise to better understand your own mindset.

Instructions – Read each of the following statements and on a scale from 1 to 5, rate how much you agree or disagree with each.

1 = I strongly agree / 2 = I agree / 3 = Somewhat agree / 4 = I disagree / 5 = I strongly disagree

1. You can learn new things, but you can't really change how intelligent you are.
2. You can always change basic things about the kind of person you are.
3. No matter how much intelligence you have, you can always change it quite a bit.
4. You can do things differently, but the important parts of who you are can't really be changed.
5. You are a certain kind of person, and there is not much that can really be done to change that.
6. No matter what kind of person you are, you can never really change substantially.
7. Your intelligence is something very basic about you that can't change very much.
8. You can never substantially change how intelligent you are.

Instructions for scoring

- If you score between 6 and 18, you may have more of a fixed mindset.
- If you score between 18 and 24, you may have a growth mindset most of the time.
- If you score above 24, you may have a growth mindset.

What is your mindset?

section will help parents to understand their own mindsets and provide some tips for cultivating a growth mindset in both themselves and their children.

Professor Dweck and other psychologists say that all too often, students give up when they struggle because they believe they simply haven't been born with the right talents to succeed.[22] Mindset theory teaches us that talent is not all that matters – struggling is a part of learning and by taking on challenges, we can grow our skills. Having a growth mindset fosters a positive attitude towards one's own personal capacity and that of others.[23] Although having a growth mindset is beneficial, it is not enough on its own to guarantee success.[24] Students must also understand how to achieve their goals; an area we will touch on later in this section.

Some researchers have managed to change students' mindsets with mindset training sessions. A typical session involves learning the differences between a fixed and a growth mindset.[25] Students then hear about the neuroscientific basis of learning – every time we learn something new, new connections or 'synapses' form in the brain. When

What happened?	Fixed mindset response	Growth mindset response
Your child tried really hard to get onto the school football team but just missed out.	*"Don't worry, we're not all born footballers. You did your best."*	*"It didn't work out this time around but what's important now is that you learn from the experience so that you can do it better next time."*
Your child has improved a lot but still hasn't reached their target of getting a B in Spanish.	*"Well done, you seem to be finding Spanish a lot easier now."*	*"Well done, you've improved a lot. Keep putting in effort and you'll get even better."*
Your child achieved their goal of a B in their science test.	*"Great work, I always knew you were a natural when it came to science!"*	*"Great work, I'm proud of the hard work you put in. See what you can achieve when you practice every day?"*
Your child is disappointed with their performance in maths class.	*"I know you're disappointed but you can't win them all. Not everyone is good at maths."*	*"I know you're disappointed. Let's look at how you study for maths and try to improve the process so that you can do better next time around."*

we work hard, these connections are strengthened. A study in the US found that students who completed this training were more motivated (according to their teachers) and performed better in mathematics over a two-year period when compared with others who did not complete the training.*

Adapting responses to children's successes and failures could help to cultivate a growth mindset. Praising a child for effort acknowledges the challenge they took on and the hard work they put in to achieve their goal. It is easy to inadvertently promote a fixed mindset by praising only their talent e.g. "you're just so smart" or "you're a natural", instead of their effort e.g. "well done – your hard work has really paid off". Praising their talent can reinforce the idea that natural ability is all that matters.[26] The table on the previous page gives some examples of fixed and growth mindset responses to common situations.[27]

Researchers of growth mindset theory do not argue that talent does not exist. Rather, they try to show how talent influences the rate at which we acquire expertise.[28] For example, many parents will have observed that some children find it easier than others to learn a musical instrument. If a child doesn't grasp something right away, that doesn't mean they'll never be good at it; it simply means it might take a bit longer and require more effort than someone who is more naturally talented in that particular area. The risk of putting too much stock in talent is that if a child struggles to learn a difficult piece of music, they may think it is because they are not talented enough to be a musician, and so they may prematurely give up. Even the best musicians struggle at times. Growth mindset theory teaches us to embrace these struggles so as to develop our skills to their fullest potential.

On the other hand, psychologists do not suggest that parents should encourage their children to continuously work on things they neither enjoy nor value. Sometimes, it is right to move on. We only have so much time and we cannot become an expert at everything. Parents can work with their children to decide which challenges are necessary and which are not. The message of mindset theory is not to make children persevere at everything, but rather to help them keep going when that's the right thing to do.

Using these techniques will take practice. For example, thinking of stimulating conversation starters for the dinner table will take time, as will reacting in a manner that promotes a growth mindset. In the long term however, these small actions could help to cultivate positive thinking patterns in children. As Professor Dweck aptly puts it:

*The mindset training programme outlined in this section has been shown to work in some contexts and not in others. For example, a recent study funded by the Education Endowment Foundation did not find a significant effect on maths or English performance amongst primary or secondary school students. Further research into developing a growth mindset is underway.

Online resource:
mindsetonline.com

"If parents want to give their children a gift, the best thing they can do is to teach their children to love challenges, be intrigued by mistakes, enjoy effort, and keep on learning."[29]

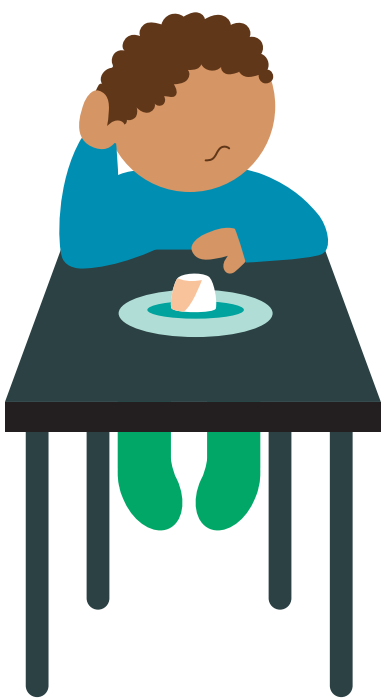
Helping children develop strategies to succeed

What strategies can parents teach their children to help them succeed? Parents can help to build skills like self-control and 'grit' so that children can be ready to deal with challenges as they arise.

Staying focused

SELF-CONTROL
The ability to regulate one's actions, behaviours and thoughts in order to achieve one's goals.

SELF-CONTROL is the ability to control one's actions, behaviour and thoughts in a way that helps us achieve our goals.[30] For example, if we set ourselves the goal of reading more, self-control helps us to stick to our plan in the moments when other activities seem more appealing.



Self-control is linked to success at school – children with better self-control attend class more and spend more time doing homework.[31] It is also related to many life outcomes. One study measured self-control in ten-year-olds and then checked how they were doing 20 years later. The researchers found that children with better self-control were more likely to live healthier lives, have higher incomes and be more law-abiding than those who showed lower self-control at age ten.[32]

Why are some children better at self-control than others? The 'Marshmallow Experiment', conducted by Walter Mischel and colleagues helps us to answer this question. In these experiments, four- and five-year-old children were given the choice to eat one marshmallow immediately or wait just 15 minutes to receive two marshmallows. This scenario tested whether the children had the self-control to resist the 'instant gratification' of a marshmallow now to gain a larger reward in the future. Similar to the study above, children who had the self-control to wait were found to have been more

SAT
A standardised test used for college admissions in the United States.

successful ten years later. Those who could wait had higher **SAT** scores and were rated as more academically and socially competent by their parents. However, perhaps the more interesting finding of this study is how children who resisted the marshmallow managed to do it.

To avoid temptation, some children stared at the ceiling, had conversations with themselves, picked their noses or invented games to keep their minds occupied.[33] Mischel and his team were encouraged that the children who could wait were using strategies which could be taught to other children. The researchers then varied whether the marshmallow was hidden from sight. Children who could see the marshmallow waited on average less than a minute, whereas children who couldn't see the treat (but knew it was there) waited almost ten times longer, on average, when it was covered. This simple method of introducing 'friction', that is, making it less easy to succumb to temptation, can be an effective way to increase self-control.

'Self-distancing' involves thinking about our situation in the third person so as to help us think more objectively about a goal.[34] For example, take Julie, who is trying to give up smoking. If she feels tempted to have a quick cigarette after lunch, she could practice reflecting on her situation in the third person. She might think to herself; 'Julie would really like to smoke now but knows that if she does, it will just make it harder to resist a cigarette the next time round.' Asking someone to refer to themselves as if they were a different person may feel strange for both of you at first, but it has been proven to be effective for some.

EXECUTIVE FUNCTIONING SKILLS
A set of higher order mental processes that enable us to concentrate, plan, remember instructions and juggle multiple tasks at once.

Researchers in the US have tried this approach with three- and five-year-old children.[35] Before choosing their positions in a card game which measures **EXECUTIVE FUNCTIONING SKILLS** (skills that help us to plan, focus our attention, remember and multi-task),[36] the children were prompted by a researcher to consider one of the following three questions, depending on which group they had been assigned to.

- Group 1: "Where do **you** think this card should go?"
- Group 2: "Where does **[each child's first name]** think this card should go?"
- Group 3: "Where does **Batman** think this card should go?"

Although the exercise had no impact on three-year-olds,* five-year-old children who were prompted to use a fictional character (like in Group 3)

*The strategy didn't work for three-year-olds. Researchers think that this might be because children this young have not yet developed the level of social understanding required to take in another's perspective. Moreover, they may not have understood the subtle differences in the instructions – referring to themselves using 'I' versus their first name.

HOME EXERCISE

Self-control strategies

Here's how you and your children can develop self-control strategies to help them study. You could also use this exercise to help your children achieve other goals too, like healthy eating or regular exercise.

Instructions – Assist your child with each of the steps below

Step 1:
With your child, write down some things they find difficult to resist when studying. Some common temptations are computer games, mobile phones and social media.

Step 2:
Then for each temptation, write down one strategy your child could use the next time they feel tempted. For example, if they get distracted by their phone, they could switch it off and put it in another room, or even give it to you while they complete their homework.

did better, in fact they scored at the level expected of a six-year-old. Researchers haven't yet tested whether self-distancing exercises like these can help directly with school work, however, they are certainly promising and we would encourage parents to give them a try.

As is clear from the example on the opposite page, this method can be applied to many different scenarios. The aim of the exercise is to create distance between the child and the task so that they can think more objectively about their actions.

Persevering towards long-term goals

While self-control relates to how we overcome temptations in the moment that we feel them, 'grit' refers to one's passion and perseverance for very long-term goals. Passion in this sense means sustaining interest in a particular field for very long periods of time, whereas perseverance involves having the tenacity, diligence and resilience to carry on through times of frustration, disappointment and ambiguity.[37] Grit is closely aligned to mindset theory; how we interpret struggles partly determines our 'grittiness'. Although researchers are still building the evidence base for grit, some early studies show that it predicts success in areas like marriage, school and retention in the military.[38] *

*'Grit' is a relatively new idea in psychology. Researchers are still studying how it contributes to life outcomes and whether it is different from other psychological concepts. Moreover, the evidence on how grit can be improved is still being gathered.

Emerging evidence on how to improve grit suggests that a combination of concrete goals and the right strategies can help in the short term.[39] BIT recently tried to help 16- to 18-year-old college students become 'grittier'. Students completed online modules teaching them the elements of what researchers call 'deep practice' – setting specific goals, staying focused and seeking feedback. Students who completed the online programmes attended almost 10% more classes. Later this year, we will find out if the deep practice training also helped students to pass their exams.

Reflecting on how we can overcome the obstacles between us and our goals can help us to achieve them. Professor Gabriele Oettingen and her team at New York University have developed a technique called 'WOOP' (Wish, Outcome, Obstacle, Plan) to help people of all ages achieve their goals. 'Wooping' combines two behavioural tools – 'mental contrasting' and 'implementation intentions'. **'MENTAL CONTRASTING'** means thinking about what we want in the future before visualising the obstacles that stand in our way. Suppose someone wants to start running

Online resource
woopmylife.org

MENTAL CONTRASTING
Visualising a desired future before identifying the obstacles one will encounter in achieving this goal.

HOME EXERCISE

Self-distancing strategies

You could use this exercise at home with your child to help them think more objectively about tasks. Suppose your child is struggling with long division. They get confused about the order of numbers and where to add zeros.

Instructions – Assist your child with each of the steps below

Step 1:

- Before approaching the problem, ask your child "Who is your favourite character on TV at the moment?"
- Once they've chosen, use this character to help them complete the problem, "Great, let's get [character] to help us with this maths problem."

Step 2:

Before each step, prompt your child to say aloud what [character] would do in this situation.

- Which numbers would [character] divide first?
- Would [character] add a zero?
- What would [character] do next?

regularly to get fit. They could use the mental contrasting approach by thinking about a desired fitness level, before considering the obstacles that could prevent them from achieving it, like not being able to find time in their schedule to go running. **'IMPLEMENTATION INTENTIONS'** involve making specific plans of what we will do and when, which can be in response to the obstacles we've identified. So, in our example, someone who wants to run more but can't find the time might make a plan to go running in the park for one hour every Wednesday at 6pm instead of watching TV.

IMPLEMENTATION INTENTIONS
'If–then' plans that describe in advance, how one will respond to a given situation. E.g. If I drop the kids off at school, then I will go for a run.

Just by forming these simple plans, we are more likely to follow through with the behaviour when the time comes. Mental contrasting, implementation intentions and both combined as WOOP have shown to be effective strategies in lots of different situations, from helping students to achieve better grades,[40] to aiding the unemployed to get back into work more quickly,[41] to eating healthy foods,[42] and even voting.[43]

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Parents can use the exercise on the opposite page with their children to help them understand the obstacles they face in pursuing their goal and to develop a plan of action to overcome them.

The techniques in this section can be adapted by parents to try with their children. For example, parents can think about how they might praise the effort and not just the outcome the next time their child succeeds, or is disappointed. If a child is struggling with a homework assignment, a parent could suggest referring to themselves by their first name rather than using the pronoun "I". Or, if a child sets goals but then struggles to accomplish them, a parent could help them to plan what they will do each day to get them that bit closer to reaching their goal.

HOME EXERCISE

WOOP[44]

You could complete this exercise with your child at the beginning of the year to help them set their goals, or after they receive specific feedback (e.g. after an exam) on a particular subject.

Instructions – Assist your child with each of the steps below

Step 1: Wish
Think about the next four weeks. What is your most important wish or concern? Pick a wish that feels challenging but that you can reasonably fulfil within the next four weeks.

Step 2: Outcome
What would be the best thing about fulfilling your wish: the best outcome? How would fulfilling your wish make you feel? Take a moment and imagine this best outcome. Imagine it as vividly as you can. Write your thoughts down.

Step 3: Obstacle
What is it within you that holds you back from fulfilling your wish? It might be an emotion, an irrational belief, or a bad habit. Think more deeply – what is it really? Identify your main inner obstacle. Take a moment and imagine your main inner obstacle. Imagine it as vividly as you can. Write your thoughts down.

Step 4: Plan
What can you do to overcome your obstacle? Identify one effective action you can take or one effective thought you can think to overcome your obstacle. Make the following plan:

> *If … (obstacle you named), then I will … (action or thought you named).*

You can form your own ‘implementation intentions’ in the space below – write down one or two approaches from this section that you will use with your children. Think about when, where and how you will practice these techniques at home. Remember, try to be as specific as possible.

Notes

SECTION 2

Behavioural insights in the classroom

1. **Making the classroom a safe place to learn**
    1.1. Belonging
    1.2. Counteracting negative self-perceptions
2. **Helping students to think deeply**
    2.1. Seeing the relevance … why?
    2.2. Learning to learn
    2.3. Giving effective feedback

When they grow up, students often appreciate their teachers for teaching them things they could never learn from a textbook. The quote below expresses sentiments familiar to most of us.

> *"Dr Habib was a passionate teacher. She used to tell us that we must care about maths as we did our favourite pop group! She set us twice as much homework as the top sets for* **GCSE** *and every weekend, we would do extra algebra tests from a book that was at least 50 years old! Back then, I thought she was crazy. Now, I wish I'd told her what an amazing teacher she was. I wish she'd known that her commitment and passion enabled me to get a grade I was proud of in a subject I found hard."*[45]

GCSE
The 'General Certificate of Secondary Education' (GCSE) is a set of exams students take in the UK, usually in Year 11 (age 15–16), after two years of study.

People remember how their teachers helped them when they were younger. It's not just the teaching of material that matters: students remember teachers who went that extra mile to reassure them during difficult times. The evidence suggests that teachers can assist students to improve their non-cognitive skills by helping them to feel more secure in their learning environment and assisting them to think more deeply about the material they're covering in class. This section is about how teachers can use behavioural insights in the classroom.

Making the classroom a safe place to learn

Classrooms are diverse places. Students have different cultures, backgrounds, abilities, and other characteristics too. Teachers may have strategies that really help their students to feel like they belong and others which don't work so well. Here, we describe the evidence on why some approaches might be more successful than others.

Belonging

Feeling that one belongs means having positive relationships with others or feeling committed to others through a shared interest or way of life.[46] Many view belonging as the foundation of learning at school,[47] and research shows that school belonging is important for many elements of academic success including motivation and confidence.[48] Reflecting on how students are similar to one another can help them to feel a sense of belonging. This could be something small like a shared interest or hobby, as well as a shared culture or some other source of identity.[49]

A new environment, such as a new school, can be daunting. Students often feel the strain of trying to fit in at school, with different social groups forming and disbanding as they move from one stage to the next. Uncovering seemingly trivial similarities between people could help to ease such worries. For example, one study found that university students are more cooperative in games when they play with someone with whom they share their birthday rather than with others with whom they do not.[50]

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It is often the members of minority groups* who feel the strain of not belonging the most. This can not only undermine academic performance, but also negatively impact health and wellbeing.[51] Psychologists at Stanford University have developed a brief exercise to counteract the anxieties of new social contexts.

Students first read about how older students had worried about not fitting in when they first arrived. They then write a brief essay on how their own experiences compare to those they have just read, before reading their essay aloud in front of a video camera. This exercise helped students to realise that their anxieties are normal and that with time, these emotions subside. This exercise set African American students on an upward trajectory such that, by the time they reached their senior year (three years later), the achievement gap between them and white American students had more than halved. It didn't just improve performance, it helped students to excel too – the percentage of African American students earning **GPAs** (i.e. overall mark earned throughout an undergraduate or graduate degree programme) in the top 25% of the class tripled.[52]

*Ethnic minority groups in the US tend to have worse educational outcomes than their white American counterparts. However, in the UK, white working class pupils achieve the lowest grades at GCSE of any demographic. Students can feel like they don't belong for many different reasons apart from ethnicity. Teachers can tailor this 'belonging exercise' to suit the needs of the students in their class.

GPA stands for 'grade point average' and denotes one cumulative number (0–4) which represents all marks earned during an undergraduate or postgraduate degree course.

CLASS EXERCISE

Reflecting on similarities

You could lead your class in this exercise at the close of one lesson, or as an introduction to another.

Instructions – Read aloud to your class

With the person sitting beside you, take five minutes now to come up with three ways you are similar to one another. It could be anything, like the number of siblings you have, your hair colour or even if you just get the same bus to school.

CLASS EXERCISE

Helping students to belong

This is a new exercise and researchers are still studying why it works and for whom. Use your own professional judgement to decide if it's appropriate for you and your students. You might even want to take just one aspect of it to try. It's thought to be most effective when students are going through transition periods, so you could do it near the beginning of a term when things are still 'new'.

Instructions – Read aloud to your class

Many students struggle to fit in when they first arrive at a new school. Some worry that they are somehow different to others; some are concerned that teachers and students will judge them. Still others feel anxious that they won't be able to keep up in class.

With time however, most students become more comfortable with their new surroundings – they make new friends, they realise that differences are what make us unique and they gain confidence in the material they are covering in class.

Step 1:
Take a few moments now to write about why some students feel like they don't belong when they first arrive in school. Reflect on your own experience. Did you feel worried that you wouldn't fit in, or that you wouldn't be able to keep up in class?

Step 2:
Now, write about how your experience at school has changed. Do you feel more 'at home' now than you did at the beginning of the year? Why is that? Did you make friends, did you find out where to get help from if you need it?

The intention of the exercise opposite is to protect students' sense of belonging from the daily adversities they will inevitably face when they enter a new context. The way in which students perceive adversity can partly determine the impact it will have on them.[53] The exercise frames adversity in a logical way and uses self-persuasion to consolidate the message. Allowing students to rationalise their anxieties themselves can be more effective than trying to do it for them.

Counteracting negative self-perceptions

STEREOTYPE THREAT
When one is at risk of viewing a negative stereotype about one's social group as a self-characteristic.

Imagine a 17-year-old student, Anika, who wants to study engineering at university. From some of the media she's read and the people she's talked to, Anika feels there is a negative stereotype surrounding women and STEM (science, technology, engineering and mathematics) subjects. She's also read some articles written by female engineers that describe the struggles they face working in a male-dominated field. Even though Anika enjoys STEM subjects and feels she is suited to them, she thinks pursuing engineering as a career would be daunting. She worries that if she were to make mistakes or struggle at all, she would confirm the stereotype that women are not good at STEM subjects. As a result, she decides to pursue a career in nursing instead.

In this example, Anika could be experiencing what is known as **'STEREOTYPE THREAT'** – the anxiety that one possesses a negative stereotypical characteristic associated with one's group. Stereotype threat has been shown to have a negative impact on student academic performance by causing stress which distracts students from learning. It is also draining, as students use up mental resources trying to suppress their thoughts and concerns about the stereotype. It has been explored most thoroughly in the context of ethnic minority groups. For example, a study in the US showed that asking ethnic minority students to think about their ethnicity before an exam had a negative impact on their performance.[54]

Stereotype threat can be partly overcome by prompting students to reflect on their personal values –

CLASS EXERCISE

Values affirmation[55]

Activities like this one are thought to be most effective when students are going through periods of transition. We therefore recommend doing this exercise with your students at the beginning of the semester when everything is still relatively 'new'.

Instructions – Read aloud to your class

A value is something that's important to you – something that makes you feel happy and appreciated, or something that gives meaning to your life.

Step 1:
Spend some time thinking about your values. Choose two or three values from the list* below that are most important to you.

- Being good at art
- Being creative
- Relationships with friends or family
- Following government or politics
- Being independent – having the freedom to do what you want
- Enjoying sports
- Belonging to a social group (such as your community, culture, or a club)
- Listening to music or playing music
- Religion
- Sense of humour
- Kindness

Step 2:
Now, take ten minutes or so to write about why these values are important to you. Why do these values give meaning to your life, or make you feel happy? Don't worry about spelling or grammar on this occasion – just focus on your feelings.

*This list was developed by Professor Geoffrey Cohen and his team at Stanford University for a study published in 2006. Teachers may want to update this list to reflect what they believe to be important for students nowadays.

the aspects of their lives that make them feel happy or give meaning to their situation. This helps students to reflect on who they are as individuals rather than their stereotype. Students first choose two or three values that are most important to them (for example, their relationships with friends and family, music, being creative or having a sense of humour). They then write about why these values are important, for around ten minutes. Although the exercise showed no impact on the performance of White American students, it improved the GPA's of African American students by 0.24 points on average.[56]

It has also shown to have a positive effect on other social groups like students whose parents did not attend university[57] and women completing physics courses.[58] BIT recently tested a variation of this exercise with further education college students in the UK. Preliminary results suggest that it has a positive effect on attendance rates for some students and we look forward to finding out its impact on exam results later in 2017.[59]

The benefits of the values affirmation exercise may not stop with the individual students who complete it. Recent evidence points towards the potential positive impact that students, who have completed the exercise, can have on their classmates who haven't. A study in the US suggests that African American students who did the exercise then went on to have an impact on the classroom in a way that resulted in positive outcomes for all students.[60] Many teachers will have the sense that a few students can indeed affect the classroom as a whole, for better or worse. This study shows the potential of this simple exercise to alter the dynamic of a classroom to the advantage of all.

Helping students to think deeply

Some of the most rewarding experiences for teachers can emerge when students think deeply about the problems they are trying to solve, work collaboratively with their classmates and most of all, are being creative, trying one new approach after another, undeterred by failures because they are so inspired to succeed. These are the skills that students will need for the 21st century. Sometimes classes seemingly take on a life of their own and students will behave this way of their own accord, but it's more likely they will need a little steering from their teacher. Here are some strategies teachers can use to help students truly engage and think a little more deeply about the material being taught.

Seeing the relevance … 'why?'

Not everything that contributes to the development of valuable skills is fun to learn. In a recent US survey, 44% of 10-to-14-year-olds said they would rather take out the trash than do their maths homework, even though 58% of them thought maths would be important for their future. Students often struggle to see the relevance of what they learn to their broader life goals.[61] For example, a student might reasonably question why they have to study trigonometry when they want to work in the media.

One effective way for students to understand this relevance may be to help them find and define it for themselves. A study in the US explored whether prompting students to reflect on the relevance of their coursework to their lives has an impact on achievement. Students first summarised what they had learned in science class that day. They then considered how they could apply this new knowledge to their own life or the life of someone they know. Students who completed this exercise and perceived themselves as low performers went on to do better by roughly two thirds of a letter grade. They also reported being more interested in science class at the end of term compared to students who did not do the exercise.[62]

In a similar study, students considered not only how their coursework benefits their own life, but also the world beyond themselves. For example, a student might work hard because they want to get into a top university, but they may also be motivated by the fact that they could use their knowledge to help others in the most disadvantaged areas of their country, or indeed the world. The results show that this 'purpose for learning' exercise improved STEM grades overall for those who completed it, and that students with low baseline performance benefited the most.[63]* Seeing the relevance of what you do also has impacts beyond formal education – research suggests that people with repetitive and relatively low status jobs (e.g. waste collectors, prison guards) find their work more meaningful and perform better when they reflect on the benefit they provide to society.[64]

BIT and Pearson are working together to test this purpose for learning exercise with computer science students in the US. One group of students reflect on how their course work is relevant to their own lives and the lives of others, whereas another group will simply summarise what they learned in class that day. We expect the results of this trial to be available in 2017. In the mean time, on the opposite page is a modified version of this exercise that teachers can try out in their own classroom.

*The sample in this study was mainly comprised of students who were already proficient in STEM subjects. The evidence does not yet tell us whether the impact of the intervention might differ for students of lower proficiency.

CLASS EXERCISE

Seeing the relevance

Researchers are still understanding who this exercise works best for and why. We encourage you to use your professional judgement to decide if it's appropriate for your students. You could do it occasionally, as you see fit, or you could try particular aspects of it.

Instructions – Read aloud to your class

Sometimes it can be helpful for us to reflect on what we are learning in class and how it relates to our lives and the lives of others.

Step 1:
Think about the material you've just covered in class today. Choose a topic and summarise it in four or five short sentences – it doesn't have to be comprehensive so don't worry if you leave some stuff out.

Step 2:
Next, think about how you could apply this topic to your life. How might this new knowledge help you to further your goals?

Step 3:
Finally, reflect on how you might use this new information to help others, like friends or family members, people in your community or society more broadly. Think about specific people who would benefit. How would their lives be different and what do you think they would say to you for helping them?

Learning to learn

In the section for parents, we discussed the importance of cultivating skills like metacognition and curiosity in children as they grow.

The Philosophy for Children (P4C) programme has been around since the 1970's and promotes metacognitive skill development by encouraging children to not merely accept information as it is, but to question and debate material in order to gain a deeper understanding.[65] Lessons usually start with teachers and students watching a video or reading a piece of text around a philosophical concept such as 'truth' or 'fairness'. Students are then given time to reflect and come up with questions. Each student chooses one question and discusses it with their teacher and others in the class. Teachers help to ensure that all students feel comfortable contributing to the discussion so that it is not dominated by the opinions of one or a few students. The core of the programme is to encourage diverse opinions, to question assumptions and to support reasoning.

Recent evaluations of P4C have shown positive impacts on learning outcomes. The European School of Madrid started using the programme in 1994, integrating it into their regular curriculum with one class a week for all students between the ages of 6 and 18.[66] Students who took the programme were more likely to help others, developed personality characteristics associated with success and demonstrated improved cognitive ability.

The Education Endowment Foundation (EEF) also funded an evaluation of the programme in UK schools and found that it had a positive effect on the attainment of students between the ages of 7 and 11 – equivalent to approximately two additional months' progress in reading and mathematics. Importantly, the programme had the largest impact on disadvantaged pupils (those eligible for **FREE SCHOOL MEALS**).[67]

Affording students the time to reflect and question accepted assumptions can help them critically think about the world around them. Young people can get really excited when discussing life's big questions and that enthusiasm and engagement can transfer to other aspects of their coursework. Many teachers will already facilitate this type of reflection and discussion in their classrooms, and there are several online resources to help teachers start or extend these activities.

FREE SCHOOL MEALS
A child's eligibility for free school meals is often used as a proxy for low socioeconomic status in the UK. Children are eligible for free school meals if their parents are in receipt of a government benefit.

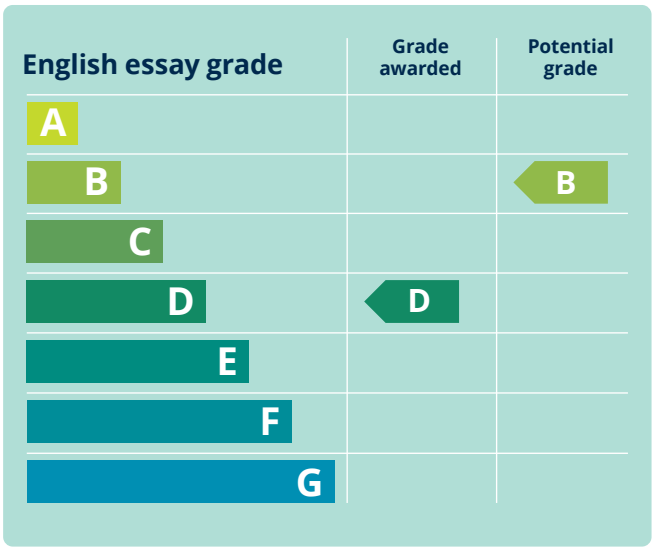
Online resource
p4c.com

Giving effective feedback

Quality feedback has been shown to be one of the most efficient ways to improve learning outcomes.[68] And, as you might imagine, the key to effective feedback is understanding why the student got it wrong – it might be that the student is making a systematic error in the way they've interpreted the material, or it could be that they've simply misunderstood what was required of them. Either way, it's important to take time to understand the root of the error as this can be the difference between a student grasping the topic or disengaging entirely.

Sometimes when a test paper is returned to a student, they pay more attention to the overall grade than to the errors they made. To counteract this, teachers could give students two grades – their true grade and a 'possible grade', much like the Energy Performance Certificates (EPC) issued on buildings in the UK, which show their current energy rating and what their rating could be were the property owner to make adjustments. Visually representing this on a feedback form could help students to better understand their potential in a given subject. Teachers could then talk their students through what they need to do to reach their 'possible' grade. Although we are not aware of any current studies testing this theory, teachers could try it out in their classrooms to see if students find it useful.

Of course, effective feedback can also just take the form of a conversation between teacher and student. Informal feedback is fine, but experienced teachers report that it works best if it is specific, timely, challenging and sets out clear guidance on what to do next.[69, 70] For example, imagine a teacher is giving feedback to a student on an essay they've written. They might mention some features of the piece that were particularly good before highlighting some systematic errors. Teachers could then work with the student to summarise their feedback with two or three actions they can do to avoid such mistakes next time round. This could be using a 'mental checklist' to make sure they don't forget certain important points, or giving them tips for how they can improve their writing.



TEACHER RESOURCE

Rules of thumb for giving feedback

1. Feedback should be given sparingly and be specific to a certain situation.
2. Feedback should be given as close to the event as possible.
3. Feedback should be about challenging tasks, not tasks students have already mastered.
4. Feedback should address the root of the mistake; what exactly did the student misunderstand?
5. Feedback should set out next steps for the student, so that they know what they have to do to improve.
6. Students should be able to link the exact piece of feedback to improvements in learning outcomes.

CLASS EXERCISE

Facilitating peer-to-peer feedback

You can use your professional judgement to choose lessons you feel are most suitable for peer-to-peer feedback.

Instructions

Step 1:
Think about which lessons you could facilitate peer-to-peer feedback in. Arrange the classroom so that as many students as possible are paired with someone of a slightly higher ability.

Step 2:
Using the 'Feedback rules of thumb' described above, give students guidance on how to give effective feedback. You could even give a prize to the student who provides the most effective feedback in the lesson.

Teachers will know that their feedback has really hit home when they see students taking specific steps to improve on what they got wrong last time. Sometimes, teachers might even find that students not only correct themselves, but help others too. The most effective teachers have shown that giving quality feedback is not just giving students the right answers or telling them what they got wrong, but helping them to understand how they can improve their understanding in the future.[71] On the opposite page are some rules of thumb that teachers can use when giving feedback to students.[72]

Many teachers will have heard of Lev Vygotsky who is considered one of the 'founding fathers' of modern psychology. Like Professor Dweck and the other psychologists mentioned in this guide, Vygotsky believed that intelligence can grow with effort. He also proposed that children learn through their interactions with one another – a child's potential lies between what they can accomplish by themselves and what they can achieve when helped by a 'more knowledgeable other', like a classmate.

Teachers can encourage helpful social interactions in the classroom by pairing students in a way that allows all of them to spend time working with someone slightly above their current ability. Prompting students to review each other's work regularly could help students to think more critically about their own work and the work of others. Moreover, teaching students how to give effective feedback is a valuable skill in the modern workplace.

The exercises we outline in this section are chosen for their ease of application to the classroom – all the activities should take no longer than a few minutes to complete and can be done several times throughout the academic year. Moreover, many of these techniques have shown to improve

academic outcomes in a lasting way for the most vulnerable children in classrooms around the world. Whether it's helping children to feel secure as they learn, or assisting them in deeper reflection on their coursework, teachers can use these techniques to powerful effect.

Notes

SECTION 3

Behavioural insights for school management

1. **Recruiting teachers**
    1.1. Making recruitment relevant
2. **Retaining teachers**
    2.1. Empowering teachers
    2.2. Showing gratitude
    2.3. Prompting reflection
3. **Getting parents involved**
    3.1. ‘Pre-informing’ parents
    3.2. Choosing the right messenger

School leaders are important. Policymakers, researchers and teachers alike, increasingly acknowledge the critical role of school leaders in the delivery of high quality education.[73] Several studies investigating the determinants of an 'effective school' highlight the strong link between the role of school leaders (like principals and middle management staff) and student outcomes.[74, 75] School autonomy is increasing in systems around the world, which means school leaders have an increasingly important role as drivers of change.

Much is expected of school leaders today – to improve attainment at all levels despite growing pupil numbers, to recruit and retain competent teachers, to deal with funding constraints, to implement curriculum and assessment changes, to comply with accountability measures and to cultivate a leadership pipeline, to mention just a few. School leaders are expected to be visionaries, innovators, disciplinarians, public relations experts, budget specialists and people managers. The role is all encompassing and indeed many school leaders report the pressures of their position.[76]

With this in mind, in this section we discuss how school leaders can use behavioural insights to help them run their schools more effectively. The approaches we present in this section are time efficient and cost effective. They are designed to enhance or replace existing processes rather than add further tasks to school leaders' already large workload.

Recruiting teachers

NATIONAL ASSOCIATION OF HEAD TEACHERS
An independent trade union and professional association representing over 28,500 school leaders in England, Wales and Northern Ireland.

Most school leaders will have experienced the challenge of finding the right teachers for their school. In a recent survey by the UK's **NATIONAL ASSOCIATION OF HEAD TEACHERS (NAHT)**, 79% of school leaders said they struggled to fill vacancies. Recruitment costs average at around £3,000 per vacancy, but can reach up to £10,000.[77] This problem is even more acute for schools located in rural areas. Despite the many attractions of rural schools (fewer disciplinary problems, more personal contact, greater chance of a leadership position and smaller class sizes), finding teachers who are willing to leave metropolitan locations for more remote communities can be difficult.[78] In response, government policy in some countries centres on offering financial incentives to encourage take-up in both rural and highly disadvantaged urban schools. However, salary alone

may not be the answer. Below, we describe some techniques that school leaders could try out to make their recruitment processes more effective.

Making recruitment relevant

Research in the US suggests that student teachers in their final year of training are willing to consider a wide variety of school types for their next post, even late into the recruitment process. This qualitative research provides insight into how best to convince teachers to come to a particular school. Although salary and benefits are important, so too is debt forgiveness (primarily student loans) and the opportunity for personal development (through graduate study).[79]

Although salary and benefits are important, so too is debt forgiveness (primarily student loans) and the opportunity for personal development (through graduate study)

In the UK, BIT have tailored recruitment communication strategies to focus on the things that are really important to prospective teachers in order to recruit teachers to schools in Somerset, a rural area in the South West of England. **'TEACH FIRST'** graduate students[80] and student teachers at the University of Exeter were sent different messages encouraging them to consider a post in a rural school. One variant focused on the prosocial nature of teaching – *"If you're the kind of person that is committed to improving the lives of children, you're just the person Somerset is looking for"*. The other version highlighted the challenge of teaching – *"If you're the kind of person that has the skills and dedication to thrive in a challenging environment, you're just the person Somerset is looking for"*. The message emphasising the challenge of teaching was found to be most effective, leading more participants to take next steps towards recruitment.[81] Teach First have now altered their communications campaigns in line with these insights.[82]

TEACH FIRST
An organisation similar to *Teach for America* in the US that coordinates an employment-based two-year teacher training programme.

Although this trial was conducted in the UK, adjusting adverts to reflect teachers' true motives is a method that can be used all round the world to encourage applications for positions that are traditionally viewed as difficult to fill.

Retaining teachers

Teacher retention is a major challenge. In the UK, nearly a third of all teachers who joined the profession in 2010 left teaching within five years.[83, 84] Research suggests that teacher motivation is an important predictor of student success, but that motivation declines throughout a teacher's tenure.[85] For some teachers, as they gain experience and the pressures of the job become apparent, the commitment they once had can wane.[86] How can school leaders sustain the initial enthusiasm that teachers bring to the job when they start?

Intuitively, it may seem sensible to pay teachers in accordance with certain performance metrics, but the research on this is mixed.[87] For instance, Indian primary school students whose teachers were on a performance pay programme did significantly better in maths and language tests than students whose teachers were not paid for performance.[88] Conversely, performance related pay has shown to have no impact on the outcomes of middle school students in the US.[89] Given these mixed results, it may be a better use of resources to try insights from behavioural science to help sustain teacher motivation.

Online resource
www.donorschoose.org

Empowering teachers

One way school leaders can motivate their teachers is to give them more control of what they do. This is consistent with studies in other contexts. For example, a study of UK civil servants shows that self-reported health status is worse amongst those in positions with low autonomy.[90] Similarly, teachers' job satisfaction is higher and stress is lower, in schools where principals allow teachers more autonomy over their decisions.[91]

One way of giving teachers autonomy would be to emulate the model of the US Charity Donors Choose. This charity allows public school teachers in the US a request for items on the Donors Choose website that they want for their classroom – a microscope for science lessons, a field trip to a local archaeological site – and invites donors to contribute towards the amount. Teachers' purchasing decisions are automatically regulated in this scenario as donors can choose not to fund

STAFF EXERCISE

Crowdsource your recruitment messages

This is an exercise you could do with your staff the next time a job vacancy comes up at your school.

Instructions

Think about the most dedicated teachers at your school. Ask them what it is that motivates them to put in so much effort every day. You could even ask them to help you draft the next job posting you place so that it draws on some of these elements.

items they do not believe to be worthwhile, forcing teachers to make sensible choices. Implementing a system where securing an item for the classroom is conditional on the class achieving a collective goal could aid in motivating both students and teachers to strive for their chosen reward. Although we're not aware of any studies testing this theory, school leaders could try it out at their school to see if it increases motivation in both students and teachers.

Showing gratitude

Teacher burnout can sometimes be the result of an imbalance in the student–teacher relationship. Teachers may feel that the effort they put into preparing and teaching their classes is not fully appreciated by their students.[92] The same can be true at the organisational level where teachers sometimes do not feel their hard work is acknowledged by management.[93]

A simple way to counteract feelings of dissatisfaction might be to help students to show gratitude towards their teachers. For example, BIT are currently testing whether asking students to write a thank you note to their teacher increases teacher motivation. The results of this trial will be available in late 2017. A further variation might be to prompt teachers themselves to consider what they have to be thankful for. In a recent study in Hong Kong, teachers were asked to reflect on the past week and write down three good things that had happened to them. The exercise increased the life satisfaction of teachers and reduced emotional exhaustion.[94] * School leaders could adopt this approach by asking teachers to think of two or three things they are thankful for at the beginning or end of every half-term.

*The sample in this study was relatively small and the results suggest that the exercise worked for some teachers and not others.

Prompting reflection

Another way to potentially increase teacher motivation is to encourage teachers to get back in touch with their reasons for choosing the profession. BIT has used this approach to increase the number of black and minority ethnic (BME) applicants successfully completing a competency based online test, in order to become a police officer. Before starting the competency test, applicants were asked to reflect on what becoming a police officer would mean to them and their community. The exercise increased the likelihood of a BME applicant passing the test by 50% and effectively eliminated the performance gap between BME and non-BME candidates.[95]

STAFF EXERCISE

Reflecting on why you became a teacher

Once a semester, near the beginning, you could complete this short exercise with staff during a regular staff meeting.

Instructions – Read aloud to your staff

Sometimes it can be helpful for us to get back in touch with the reasons for choosing our profession.

Step 1:
Take a moment now to reflect on why you became a teacher. How does teaching give meaning to your life? How has your decision to enter the teaching profession helped others – students, parents or even other staff members?

Step 2:
Now, write down the two or three most important reasons for why you became a teacher. You'll have about ten minutes to do this.

SCHOOL EXERCISE

Thank your teachers

You could use this approach throughout the school year to help your staff feel appreciated.

Instructions

Think about how you thank your staff. Could you do it more often? How could you get students involved in showing gratitude towards their teachers on a more regular basis? Everyone likes to be recognised and the more personal you can make it, the better.

Getting parents involved

Of course, not even the world's best schools can do everything on their own, they need help from parents too. Schools put a huge amount of work into engaging with parents in important ways, like parent–teacher conferences and social events like plays, sports etc. These are great ways for parents to feel involved, however, recent research suggests that involving parents in their child's day-to-day learning can be helpful too. Although this can be challenging, researchers are finding that it is possible, if the following conditions are met. First, parents should feel reassured that they know what to do and when to do it. Second, they must believe that their efforts will make a difference and finally, they should feel as though the school wants them to be involved.[96] The approaches below give some guidance on how schools can meet these conditions.

'Pre-informing' parents

Although providing information via report cards after exams can help parents to understand where their child is at academically, it is hard for parents to use this information to help their child improve for the next test. Of course they will usually want to help, but they probably don't even know when the next test is and as busy parents, are likely to have many other pressing priorities at that time. So, as well as telling parents how their child has done after the test, it might also be useful to let parents know in advance when the next test is coming.

A study conducted in the UK tested whether providing timely information to parents via text message has an impact on the academic performance of students.[97] Parents were texted about upcoming tests; what their child had learned at school that day; or if their child had failed to hand in their homework. Importantly, each message invited the parent to take specific actions (e.g. "Encourage your child to study ahead of their test on Friday"), so that they understood what their next step was.

The findings show that students whose parents received the texts outperformed students whose parents did not, by the equivalent of one additional month of schooling in maths.[98] Given that many schools communicate with parents via text message already (primarily to tell them about school-wide events rather than information specific to their child's learning), using this resource in a more purposeful way could

help parents feel more involved and in turn, improve student attainment. Text messages have the additional advantage of being cheap and accessible to nearly everyone. While only the most engaged parents might attend parent–teacher conferences, almost all parents have phone numbers registered with the school, and it takes little effort to read a message on their phone.

Choosing the right messenger

A well known insight from behavioural science is the 'messenger effect'. The weight we give information depends greatly on who is delivering that information – research suggests that if we respect the messenger, we pay more attention to what they are saying.[99]

A potential way to get more parents involved in their child's learning could be to get other parents to convey the message. Parents may be more responsive to another parent who they can identify with, rather than the school or a teacher. School leaders could use this approach in some of the written and verbal communications they send to parents. For example, instead of school leaders writing a letter inviting parents to a school event, another parent could extend the invitation explaining why they, as a parent, think it is a worthwhile event to attend.

HER MAJESTY'S REVENUE AND CUSTOMS
The UK's tax, payments and customs authority.

The power of the messenger effect can be seen in a trial BIT ran with **HER MAJESTY'S REVENUE AND CUSTOMS (HMRC)**. The aim of the trial was to increase the number of employees donating part of their salary to a charity of their choice. One group received an email from their HR department informing them of the scheme while another group received an email from a colleague – Harriot. In the email, Harriot described why she chose to donate – *"I wanted to do something practical to support the recovery of*

abused and neglected children and have made a monthly donation of £15 to the NSPCC since 2000." The message from a colleague more than doubled the number of people donating.

Going one step further, schools could engage with a core team of parents who could then encourage other parents in their network to do the same – this technique is known as a 'network nudge'. BIT ran a study with the Alzheimer's Society in the UK to increase the number of 'Dementia Friends'.[100] Some people received a standard email inviting them to the 'Dementia Friends' training sessions. Others were sent the same email but with one additional sentence – *"Why not invite your friends and family along to your Dementia Friends session?"*. This additional sentence increased the number of attendees at the training session by 62%.[101]

Schools could engage with a core team of parents who could then encourage other parents in their network to do the same

The techniques detailed in this section were chosen for their ease of application and cost effectiveness – these approaches are designed to improve existing practices rather than burden school leaders with more procedures. We hope that school leaders will use these insights to assist them in their many leadership responsibilities; whether it be the recruitment and retention of teachers or getting parents more involved in their children's education.

Online resource
educationendowmentfoundation.org.uk/resources/teaching-learning-toolkit

We would also encourage school leaders to use the Teaching and Learning Toolkit designed by the Education Endowment Foundation (EEF). The EEF is an independent charity based in the UK which funds rigorous evaluations of innovative projects to better understand what works for raising pupil attainment between the ages of 5 and 16. The EEF have also evaluated the impact on attainment of school management decisions such as extending the school day, reducing class size and having a school uniform. Their 'toolkit' is fast becoming an invaluable resource and we would recommend school leaders try out some of the more successful programmes to see if they make a difference in their schools.

STAFF EXERCISE

Activate your parent network

You could do this exercise with your staff in the run up to your next school event.

Instructions

With your staff, think about what school events you have coming up. Are there parents you could ask to act as ‘the messenger’ for other parents? How could you work with these parents to ensure even the most ‘hard to reach’ parents are notified?

Notes

Conclusion

Throughout we have described practical ways that parents, teachers and school leaders can embed behavioural insights at home and in school. Some of the approaches we outline aim to improve non-cognitive skills – abilities like perseverance, creativity and empathy, which help us to mobilise intelligence in order to achieve personally held goals. Many of the methods we cite have shown promise in narrowing the academic achievement gap between students of rich and poor backgrounds. Although not a panacea, behavioural insights have the potential to be a catalyst for change in the way students learn, how teachers teach and school management.

Behavioural insights have the potential to be a catalyst for change in the way students learn, how teachers teach and school management

If you would like to share any results from trying these exercises at home or in school or if you would like your school to become more deeply involved in a behavioural science study, BIT would be delighted to hear from you. Please contact info@bi.team with your feedback or to express your interest in partnering with BIT in our research.

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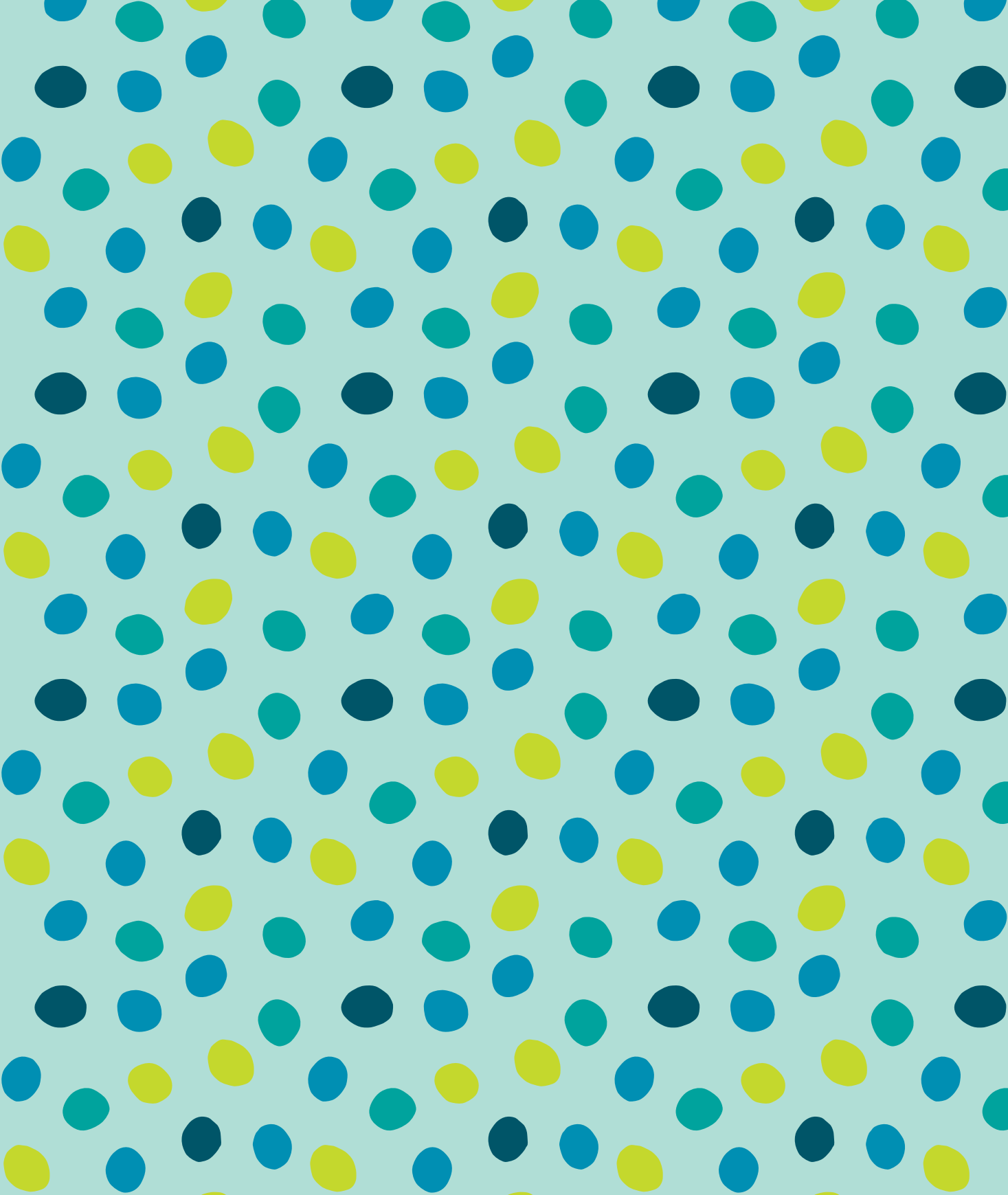

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