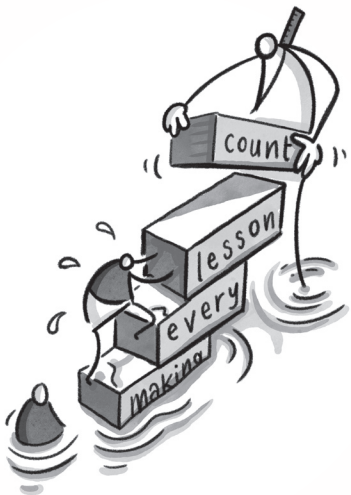
Making every lesson count



Six principles to support great teaching and learning

Shaun Allison and Andy Tharby

Foreword by Doug Lemov

Packed with practical strategies, *Making Every Lesson Count* bridges the gap between research findings and classroom practice. Shaun Allison and Andy Tharby examine the evidence behind what makes great teaching and explore how to implement this in the classroom to make a difference to learning. They distil teaching and learning down into six core principles – challenge, explanation, modelling, practice, feedback and questioning – and show how these can inspire an ethos of excellence and growth, not only in individual classrooms but across a whole school too.

Combining robust evidence from a range of fields with the practical wisdom of experienced, effective classroom teachers, the book is a complete toolkit of strategies that teachers can use every lesson to make that lesson count. There are no gimmicky ideas here – just high impact, focused teaching that results in great learning, every lesson, every day.

Making every lesson count

Six principles to support great teaching and learning

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Foreword by Doug Lemov

A few years ago I spent a day touring schools in a major American school district. The district in question was committed to providing better training for its teachers. The organization that helped them design a summer training program to make sure newly qualified teachers were successful when they entered the classroom was using one of my books. The long tunnel of winter was turning to spring and things were going well. They invited me down to visit and see the results, and on the day in question we went from classroom to classroom to watch the new teachers at work.

Everything I'd read prior to my visit indicated that great things were afoot. The data on the new teachers indicated that they were proving more successful than almost any class of new teachers in the past – internal assessment data showed higher than expected student achievement levels; observations by school leaders were positive; the drop-out rate among the teachers low. This was all great news – the first years of teaching, in an urban school district in the US, can be brutal for new teachers. So brutal that The New Teacher Project, a highly respected organization here, found that about half of them quit in the first three years. But by every measure the district had, these teachers were surviving and thriving at higher rates than normal. The new teachers weren't perfect but they were on their way.

What I saw in classrooms that day unexpectedly eroded my optimism. It was plain to see that the teachers had developed a set of skills and that those skills were helpful to them in setting the conditions for learning. Students were engaged and ready to learn. There they were sitting brightly at their desks with their eyes up and alert and their minds ready. They wanted to learn; they appeared to like and trust their teachers. They were waiting, those students, for something great to happen. And that was the problem.

The lessons those bright-eyed, would-be scholars participated in often lacked the fundamental elements of what a great lesson should look like. There was a general dearth of challenge and rigor. There wasn't much independent practice. The goal seemed to be to keep students from getting turned off school by keeping them from struggling too much, so, for example, the texts they read were too easy. They read them; they were praised for reading them. But the intrinsic rewards that come from reading something rich and challenging were not bestowed upon those children. The end product did not push their minds. Other times they would do a handful of math problems say, but not fifteen of them of increasing challenge and complexity. And they rarely executed with autonomy. In the I/We/You model they did a lot of "I" (the teacher modeling) and "We" (guided practice) but not much "You" (independent practice).

It may have been better than what usually happened in a first year classroom, but it wasn't good enough. And often it wasn't the things the teachers hadn't thought of that betrayed their lessons but rather *the things they were trying to achieve.* They'd been *trained and socialized* (previous to attending the summer institute) to know not to give students text that was "too rigorous." They knew they should not give poor kids who might be behind in reading hard things to read. It's not that what they chose to read had not been given much thought but that it had that was so damning.

And the fact that their skills in some aspects of teaching had changed the culture among the children just made the need for rigor and challenge all the more urgent. The kids had done their part. They had bought in to the promise of "something more" but the something more wasn't "more" enough. To not deliver the kind of lessons that set their minds alight was to not deliver on a promise.

Let's be honest here. Skills matter. A lot. To walk into those classrooms with Dostoyevsky tucked under your arm but no

idea how to engage all kids, ask questions or establish orderliness is to guarantee another, perhaps quicker and occasionally spectacular, form of failure. But mastery of skills without a clear vision of "what for" also isn't enough.

I holed up in my hotel room that night and into the wee hours hammered out a note to my colleagues with thoughts on how to develop a tool to help their trainees hold a vision of what excellent and rigorous lessons looked like, as a constant lodestone and guide, even while they were learning the fundamentals that would allow them to execute on that vision fully somewhere down the road. I suggested something called a "rigor checklist" – basically a list of gut check things teachers should be seeing and doing if they were on the right track in terms of lesson design. It included things like reading challenging text and doing lots of independent writing in complete sentences followed by revision. If none of the things on the list were happening regularly, it meant there was probably a rigor problem. Skills must be developed but without perspective and the right compass heading they don't work that well.

If only Shaun Allison and Andy Tharby had written their outstanding *Making Every Lesson Count* then it might havemeant a less fraught and sleepless night for me and more importantly better teaching for children in that city. Certainly their document envisioning what a well-designed lesson should encompass is better than what I put together in my "checklist." Their book is not only immensely useful but a great read – clear and thoughtful; direct and lively; written – you will be reminded on almost every page – not by people who sit in some theoretical aerie high above the fray but by front line educators who live and breathe the fundamentals of schooling every day in real schools with the full panoply of challenges that implies.

Yes, I still believe teaching is a craft and that teachers succeed by refining their technique over and over, to better execute the moments of their day, throughout their working

lives. Allison and Tharby do too I suspect. But what they provide in this book is a vision: what does the end product look like? What is it we're shooting for and why? What's most important? How do we avoid the burden of bad ideas in teaching? In particular their vision focuses on the centrality of challenge and the necessity of practice, the very two elements most likely to be missing from well-meaning lessons that just aren't rigorous enough. The very two things teachers were not providing to their eager students on that fateful day.

And of course while the visit to the schools I describe here reminds me how helpful it can be to early stage teachers, this book will be immensely useful to all teachers at all stages in their development. It's full of grounded and real world insight. I couldn't recommend it more highly.

Doug Lemov, managing director, Uncommon Schools, author of *Teach Like a Champion 2.0, Practice Perfect* and *Reading Reconsidered*

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This book is dedicated to the fantastic teachers and students, past and present, whose work at Durrington High School continues to inspire and challenge us every single day. Without you to learn from, this book would simply not have been possible – so thank you. The recent rise of online teacher networks – through Twitter and blogging – has led us to engage with countless educators from across the globe, working in a wide range of contexts. You have broadened our horizons beyond all measure. Once again, our heartfelt thanks – we truly are standing on the shoulders of giants.

Shaun would like to say a special 'thank you' to the Senior Leadership Team at Durrington for your brilliant humour, support and unswerving commitment to excellence. You are an inspiration to me and I am lucky to work alongside you and learn from you. Above all though, I would like to thank my beautiful wife Lianne and my four gorgeous children, May, Finn, Eve and Jude. You are my world and I love you all very much.

Andy would like to pay special tribute to the English team at Durrington. Your good humour, decency and desire to do the best for our students have made for ten wonderful years. Mostly, though, I would like to thank Donna and George. Donna for your love, patience and for putting up with my infuriating absentmindedness during the writing of this book. And George for your indefatigable cheerfulness – you make me happy every day.

Contents

Introduction

One Easter, Shaun and his wife, Lianne, were clearing out their loft when they happened upon Lianne's dog-eared school books hidden away in a dark corner. They were from her fourth year (Year 10) chemistry lessons when she was taught by Mr Clarke, a teacher she remembers vividly to this day. They started to flick through. Her books were full of detailed, well-presented notes. Even thirty years later, Mr Clarke's teaching approach shone brightly from those dusty pages.

Chemistry was hugely challenging in Mr Clarke's lessons. In Year 2, Lianne was learning about valency; in Year 4, empirical formulae. As one of his students, it was your duty to raise your standards to meet his demands – he would never come down to meet you. Woe betide anybody whose efforts did not make the grade; Mr Clarke might publish your name on his infamous 'dirty dozen list'! You were always expected to respond to Mr Clarke's marking. He would write 'corrections' and you would be expected to repeat your incorrect answers until they were right. Mr Clarke did not worry about whether the work was intrinsically interesting. He cared that you learnt what you needed to know. Every

student in Lianne's chemistry class achieved an O level grade C or above. And it was a mixed-ability group too.

Did Mr Clarke's lessons engage and motivate his students? You bet they did. He regularly won the school's 'teacher of the year' award and is still a local hero in Porthcawl, South Wales despite having retired some years ago. Lianne is now a successful science teacher.

As a profession we have become confused. After many years of educational research, nobody can put a definitive finger on what successful classroom practice really looks like. Yet teachers across centuries and millennia seemed to have managed perfectly well. Mr Clarke certainly did. Of course, successful teaching is more than a case of simply mimicking those we admire. We have to find something that works for us individually – in our classrooms, in our schools. Might it be, however, that in recent years the profession has so overcomplicated definitions of 'good practice' that it has blinded itself from some simple truths?

Ofsted, who in the past have favoured and prescribed a preferred style of teaching, last year stepped back from grading individual lessons – instead letting schools define how successful teaching should look for themselves. In classrooms up and down Britain, teachers now have more freedom than they have had for a decade to develop and hone strategies that suit their preferred teaching style and the needs of their students. This is a welcome but daunting change. It also poses a question. If we are to make every lesson count, what simple and manageable actions have the greatest impact on learning?

We should categorically state from the outset that we do not believe in silver bullets. This book does not pretend to gift you with solid answers to every dilemma you will face. Instead, we offer a coherent ethos and six evidence-informed pedagogical principles that cut to the core of successful teaching: challenge, explanation, modelling, practice, feedback and questioning. We hope that the ideas we share will

be useful to new and experienced teachers alike, as you look to further your understanding of how a rich climate for learning can be forged from the small details of practice.

Two values provide the bedrock for everything that follows in this book: *excellence* and *growth*. After reading Massachusetts middle-school teacher Ron Berger's wonderful book, *An Ethic of Excellence*,[1] we realised that in our headlong pursuit of fashionable pedagogical ideas – such as pace, rapid progress and independent learning – we had long neglected an eternal truth. That it is our fundamental responsibility to give children the chance to be excellent. Berger writes about how he immerses students in high standard exemplar work and models, allows them to redraft their work multiple times and builds up a culture of collegiate pride. The result is a culture of craftsmanship. All children, Berger argues, are apprentice craftsmen. They should be encouraged to hone and refine their work with pride and diligence until it reaches excellence.

But excellence is hard to come by. To achieve it, a child must work hard and be prepared to face the setbacks they will inevitably meet on the journey. This is where Stanford University psychologist Carol Dweck's ideas about mindset take centre stage. Dweck has found that human beings fall roughly into one of two broad categories: those who adopt a *fixed mindset* and those who adopt a *growth mindset*. Those who think in a fixed way believe that their ability is innate and cannot be changed: I was born clever – or stupid – and that way I will remain. Those alive to the possibility of growth, however, will attribute success or failure not to an unchangeable lack of ability, but to whether they have worked hard or not. Put simply, if a child flunks an exam there are two possible attributions they might make: place the blame on their natural ability and see no need to increase their effort next time around, or seek to learn from their mistakes with the aim to do better next time.

1 Ron Berger, *An Ethic of Excellence: Building a Culture of Craftsmanship with Students* (Portsmouth, NH: Heinemann, 2003).

Of course, it is the growth mindset that we must seek to encourage. Teachers and children need to realise, in Dweck's words, that 'working harder makes you smarter' and that it is old-fashioned effort that unlocks improvement, not a gift granted at birth. Dweck's research demonstrates that through the language we use with young people, adults can have a huge influence on the mindset a child adopts. How we frame success and failure, and the way we promote 'struggle' as a positive state, are hugely important. Viewed from another angle, Dweck's findings point at another principle behind this book: exemplary teachers are not born great, they *become* great.

Underpinning this book, then, are the notions gleaned from Dweck and Berger that expert teachers must be uncompromising in their quest to foster pride and hard work. Nevertheless, excellence and growth are soulless, vacuous aims without good teaching to bolster them. It means very little to ask a child to adopt this philosophy if we have not furnished them with the tools that make it possible. Indeed, Muijs and Reynolds conclude that research tends to show that 'the effect of achievement on self-concept is stronger than the effect of self-concept on achievement'.[2] In other words, teach students well and they will achieve; and if they achieve, they will begin to see themselves as successful learners. A school ethos of excellence and growth, then, can only truly be created through great teaching that leads to genuine learning.

An extensive report from the Sutton Trust entitled *What Makes Great Teaching?* argues that research evidence proves that many popular teaching practices are ineffective in improving student attainment.[3] The authors name the following strategies as being myths that have little impact on

2 Daniel Muijs and David Reynolds, *Effective Teaching: Evidence and Practice*, 3rd edn (London: Sage, 2011), p. 188.

3 Robert Coe, Cesare Aloisi, Steve Higgins and Lee Elliot Major, *What Makes Great Teaching? Review of the Underpinning Research* (London: Sutton Trust, 2014). Available at: http://www.suttontrust.com/wp-content/uploads/2014/10/What-makes-great-teaching-FINAL-4.11.14.pdf.

learning: lavishing low achieving students with praise; encouraging students to discover ideas for themselves; grouping by ability; rereading as a revision tool; attempting to improve motivation before teaching content; teaching to 'learning style'; and the idea that active learning helps you remember.

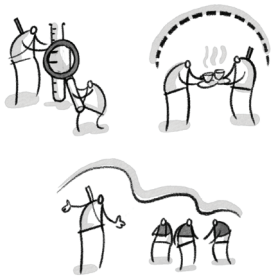
However, the two factors linked with the strongest student outcomes are:

- **Content knowledge**. Teachers with strong knowledge and understanding of their subject make a greater impact on students' learning. It is also important for teachers to understand how students think about content and be able to identify common misconceptions on a topic.

- **Quality of instruction**. This includes effective questioning and the use of assessment by teachers. Specific practices, like reviewing previous learning, providing model responses for students, giving adequate time for practice to embed skills securely and progressively introducing new learning (scaffolding) are also found to improve attainment.

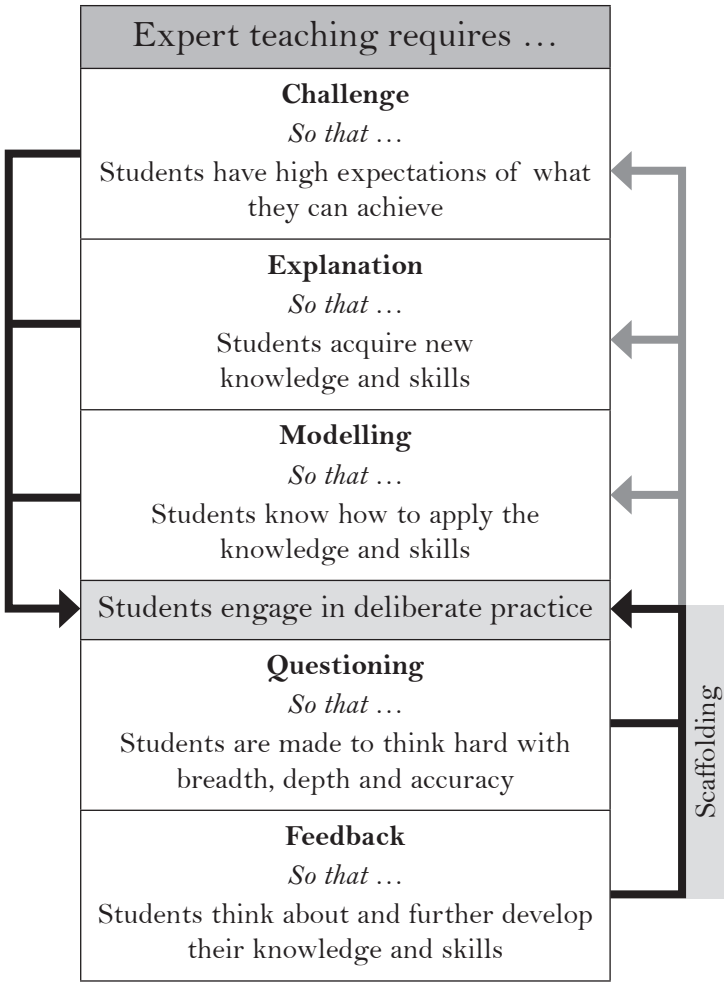
It would be a mistake to adopt the broad brushstrokes of such findings crudely or uncritically. Our joint experiences have demonstrated again and again that schools should never underestimate the practical wisdom of the classroom teacher. Careful day-to-day decision-making, informed by years of thinking and practice, is vital. Situational factors have a huge influence too. Great teaching is not a single entity; it varies enormously from school to school, from subject to subject and from classroom to classroom. What makes you an exemplary practitioner in your environment might not make us exemplary teachers in ours – and vice versa. Needless to say, it would also be a grave mistake to dismiss the findings highlighted in the Sutton Trust report, and so the ideas shared in this book do lean on this and other sources of evidence, such as cognitive psychology.

It follows, then, that this book will combine three aspects when coming to a definition of effective teaching: what the research evidence suggests; what we have learnt from inspirational teaching colleagues at our school and in the burgeoning online education community; and, most of all, what we continue to learn from our day-to-day experiences as classroom teachers.



We have targeted six interrelated pedagogical principles. Inspired by the legendary rock band Led Zeppelin, ours is a 'tight but loose' approach. We have highlighted a few essentials to great teaching but leave you free to implement them and connect them as you see fit.

The principles work as follows:



The first principle, *challenge*, is the driving force of teaching. Only by giving our students work that makes them struggle, and having the highest possible expectations of them, will we be able to move them beyond what they know and can do now. This will be the focus of Chapter 1.

Challenge informs teacher *explanation*, which is the skill of conveying new concepts and ideas. The trick is to make abstract, complex ideas clear and concrete in students' minds. It is deceptively hard to do well, and so we delve into the art and science of teacher talk in Chapter 2.

In Chapter 3 we move on to *modelling*. This involves 'walking' students through problems and procedures so that we can demonstrate the procedures and thought processes they will soon apply themselves. It also involves the use of exemplar work.

Without *practice* student learning will be patchy and insecure. They need to do it, and they need to do it many times as they move towards independence. In Chapter 4, we take heed of the findings from cognitive science research. It goes without saying that practice is the fulcrum around which the other five strategies turn. This is because it develops something that is fundamental to learning – memory.

Students need to know where they are going and how they are going to get there. Without *feedback*, our fifth principle and the subject of Chapter 5, practice becomes little more than 'task completion'. We give students feedback to guide them on the right path, and we receive feedback from students to modify our future practice. And so the cycle continues …

Chapter 6 leads us to our last principle – *questioning*. Like explanation, questioning is a skilful art. It has a range of purposes: it allows us to keep students on track by testing for misconceptions and it promotes deeper thought about subject content.

Finally, in Chapter 7, we consider how school leaders can put structures and systems in place that will allow a climate of excellence and growth to take root and flourish. We include a number of case studies, including from some of the most influential school leaders in the UK.

Through the application of these six principles, the ultimate goal is to lead students towards independence. The idea of 'independent learning' is often misunderstood. Independence is a desirable outcome of teaching, not a teaching strategy in its own right. Our job is to teach children, rather than to cross our fingers in the hope they will learn on their own. Classroom management and relationships are of great importance too, yet they are not the subject of this book. Without a strong classroom climate in place, it is unlikely that the above principles will have much effect. Even so, research shows that sometimes, even if a child is working hard and engaged, new learning might not be taking place.[4]

So, how do these six principles relate to one another? Well, to be clear, this is not a neat cycle to be adhered to in every lesson. Learning is highly complex. It ebbs and flows through lessons, across schemes of work and over years. In fact, the hackneyed 'three-part' lesson of starter, main and plenary is hopelessly simplistic. Some learning cycles are simple, quick and over in minutes. Others are much longer loops covering two, three or more lessons. Others still are choppy and messy, returning back to teacher explanation and modelling repeatedly as students struggle to refine new knowledge and skill through lots of practice and focused feedback. Some sequences will prove so simple and quick that all six principles will be unnecessary. Others will require them all.

To explain to a child how to spell 'accommodation' might take a matter of minutes – 'Two cots need two mattresses in any accommodation!' – plus a bit of practice using the word in context. To teach the same child how to write a speech, however, will require a more comprehensive sequence. You will set the level of challenge high by introducing students to seminal historical speeches – those by Elizabeth I, Winston Churchill and Martin Luther King, perhaps. These will act as exemplars to inspire their own writing, but you

4 Graham Nuthall, *The Hidden Lives of Learners* (Wellington: New Zealand Council for Educational Research Press, 2007), p. 24.

will also need to model explicitly some key aspects of speech-writing with the class: an arresting opening, a well-evidenced argument, a powerful ending. Students will need to practise these discrete features and receive feedback on their performance before they embark on writing a full speech of their own. Perhaps they will redraft as a result of your feedback. Through each stage of the unit of work, you will have questioned them to find out what they understand and to provoke deeper thinking.

The majority of this book is dedicated to sharing the planning, delivery and assessment strategies that bring each of the six principles to life. For instance, there are ten strategies to accompany Chapter 4 on practice, including The Power of Three on the importance of repetition, Fold It In on building regular practice of important concepts into long-term planning, and Pair Their Writing, a strategy that involves students verbally supporting one another during writing practice. Each chapter begins with two typical classroom scenarios. These are fictional but rooted in problems we and many other teachers encounter on a daily basis.

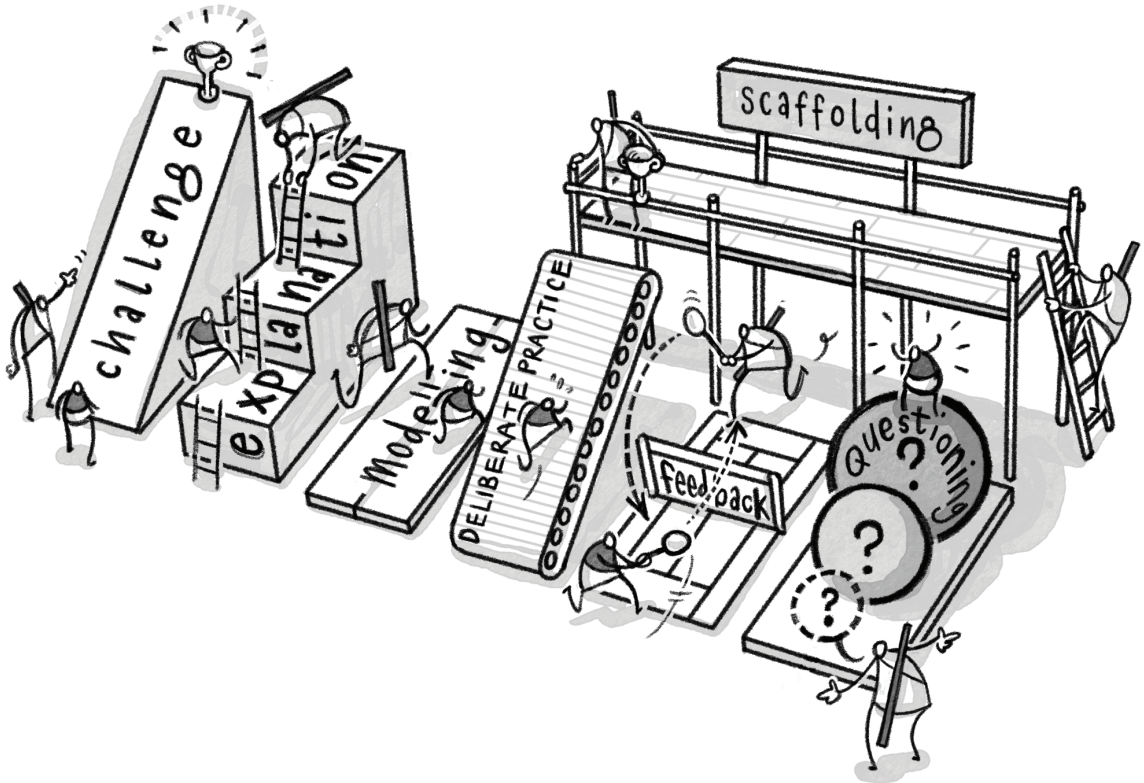
Our hope is that you will pick and choose from the strategies as you see fit. While one teacher might use all the strategies with great success, the next might have little success with any of them. What matters most is how and why they are implemented. They will need to be adapted and refined to suit the content you are teaching and the children you are teaching it to.

We propose that all planning should start with the question: what is the subject content I aim to teach to the students in front of me? It is at this point that the principles and their supporting strategies come into play. We suggest that you adopt the individual strategies as rough ideas to adjust, modify and combine to suit your subject and teaching style. Aim to capture their essence, their spirit, rather than to apply them as hard-and-fast rules. Ours is not a regimented, thought-free approach to teaching.

A persuasive line of argument suggests that generic teaching strategies, such as those we share in this book, are a distraction; that pedagogy is more effective when it is subject specific. In general we agree: delivery of subject content must be the primary concern. However, there are some fundamentals to teaching and learning that we should all be made aware of. This is why each chapter starts with a description of the principle and why it works, and then moves on to practical strategies. Once you understand the essential concept you can decide which strategies can be usefully adapted for your subject.

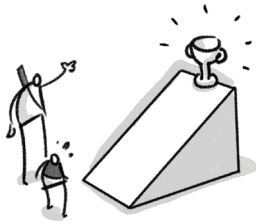
We hope you will enjoy our book and be as inspired in the reading of it as we have been by the teaching that has inspired it. Most of all, we hope that you will relish building and maintaining a culture of growth and excellence with your students. Teachers like Mr Clarke are certainly not relics from a bygone era.

The six principles



Chapter 1

Challenge



Evie

Evie arrives at secondary school with the label 'less able'. She has fallen behind during her primary years in the basics – reading, writing and arithmetic. She is a hard-working, conscientious child from an underprivileged background. She receives little support from home. On arrival at secondary school, Evie takes a number of baseline tests and before long finds herself in the bottom set for many subjects. In unstreamed subjects, teachers differentiate by giving her easier work to complete than her peers. Teachers rarely expect more than this from Evie – after all, somebody has to be the weakest in the group. It is no wonder then that Evie herself has little expectation that she can become an academic achiever. After five years of secondary school, Evie enters the real world. She has failed her GCSEs.

Emma, the English NQT

During her first year as an English teacher, Emma decides to take a risk and teach a poem she has always loved to her Year 9 group, Robert Browning's 'Porphyria's Lover'. It is a sullen

Thursday afternoon in late November and the lesson is nothing short of a disaster. The classroom is awash with cries of 'I don't get it', 'Why do we have to do poetry?' and 'Mr Brown's class next door are watching a video today.' At last the bell rings for the end of the day, and Emma vows never again to attempt Browning with her Year 9 groups. She will look for an easier alternative next year.

Challenge – What It Is And Why It Matters

Put simply, challenge in education is the provision of difficult work that causes students to think deeply and engage in healthy struggle. It is unfortunate that all too often challenge is presented in the context of 'challenging the most able'. Evie's story is an extreme logical extension of this phenomenon. Teachers were only ever expected to support her, never challenge her. Sadly, these low expectations, consciously and subconsciously, were transferred to Evie herself, whose schooling became defined by a lack of self-belief. Fascinating, if controversial, research from Rosenthal and Jacobson in the 1960s, into what they dubbed 'the Pygmalion effect', suggests that our expectations of students can have a profound effect not only on how we interact with them but also on the student's future achievement.[1] They found – and it makes for uncomfortable reading – that teachers in their study would interact differently with those students of whom they had higher expectations. They would be 'warmer' towards these children, teach them more material, give them more time to respond to questions and provide them with more positive praise.

1 For more on the Pygmalion effect, see Philip Zimbardo, The Pygmalion Effect and the Power of Positive Expectations [video] (25 September 2011). Available at: http://www.youtube.com/watch?v=hTghEXKNj7g.

It is bizarre, morally questionable even, that we have come to believe that only those we describe as the 'most able' need or deserve to be challenged. Some overarching principles are needed to help us to use challenge in the classroom:

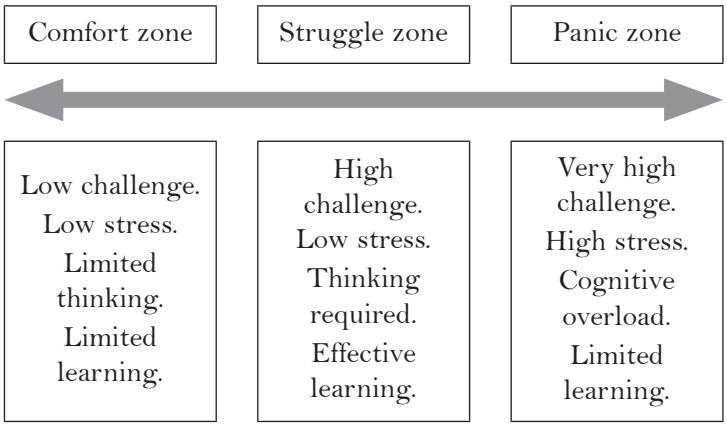
- It is not just about the 'most able'.
- We should have high expectations of all students, all the time.
- It is good for students to struggle just outside of their comfort zone, as that is when they are likely to learn most.

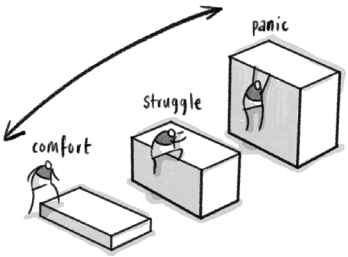
The first and last points relate to Carol Dweck's work on mindsets. Those students who adopt a growth mindset are more likely to understand that hard work, effort and learning from failure are vital to their future success. Providing them with challenging work is easy for the teacher; they are likely to embrace it. They will enjoy the struggle and see this as integral to their learning. It is the underachieving, fixed mindset students that cause us most difficulty. To them, effort feels fruitless and seems to compound their negative self-perception. Because they want to be seen as bright at all costs, they do not want to be considered as struggling. The temptation, as a teacher, is to give these students 'easy work' for a quiet life. Because the work leads to no real effort or deep thinking, it is very unlikely that they are learning. However, it keeps them satisfied because by completing the work they will not have to lose face through public failure.

Instead, we need to move these students from a fixed to a growth mindset, and the only way to do this is to give them more challenging work and to support them by helping them to believe that they can do it. We want to shift them to a position where, through hard work, resilience and determination, they will eventually embrace the struggle.

Have you ever been told, following a lesson observation, that your lesson was 'badly pitched' because students were struggling? This is an odd statement because, within reason,

struggle supports learning. A careful balance needs to be struck – as in the figure below. While we want to move students out of their comfort zone into the struggle zone, we also need to ensure that we do not push them too far so that they end up in the panic zone. Hattie and Yates have summarised research showing that useful learning will not occur when there is too much new material for our working memory – the part of the mind responsible for holding and processing information – to cope with.[2] The skill of the effective teacher, therefore, is to push students just far enough so that they are in a productive struggle, but not so far that they drown in a sea of panic.

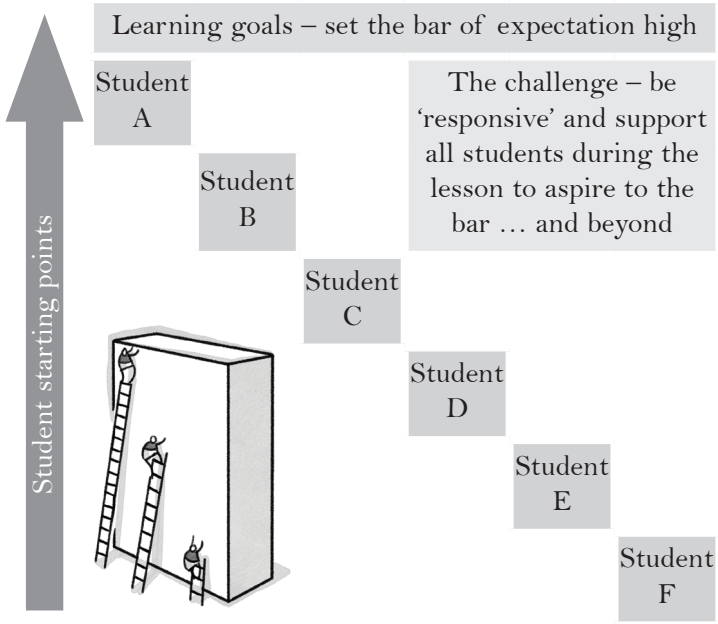




2 John Hattie and Gregory Yates, *Visible Learning and the Science of How We Learn* (Abingdon: Routledge, 2014), pp. 149–152.

The second scenario at the beginning of this chapter featured Emma, the NQT English teacher, grappling to teach a difficult poem to an uncooperative class. The students were possibly experiencing cognitive overload or perhaps feigning laziness. The solution here is to reconsider how to teach the poem, rather than to scrap it from the curriculum forever. If ample time is given to teaching the poem step by step, then teaching 'Porphyria's Lover' to the full ability range is eminently possible. The take-away here is that *challenge must start at home* – with us, the teachers.

So where does this leave differentiation, which is conventionally thought of as the teacher providing students of different abilities with work to match their 'ability profile'? The figure below demonstrates our solution to the problem of ensuring that needs are met, yet keeping the challenge high.



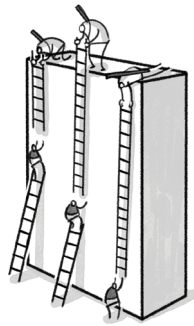
This model suggests that we should set the bar of expectation high for all students, irrespective of their starting points. Our job, then, is to respond to and support students during lessons, and over weeks, months and years, so that they all strive to reach, or in some cases surpass, this common goal. In doing so, differentiation will lie in the skilfulness of our response to the anticipated and unanticipated difficulties that our students will encounter along the way. This can only work effectively if we understand the individual students we are teaching, we have a deep knowledge of subject content and we know which parts of our subject students tend to find difficult.

For example, imagine your students are writing an essay on Shylock from Shakespeare's *The Merchant of Venice*. They are five minutes into the task when …

- Callum puts his hand up and asks how to spell 'traumatised', as he often does with new vocabulary. You tap the dictionary on his desk and smile, but repeat the word for the whole class to reinforce your expectation that students employ challenging vocabulary.
- Grace's hand shoots up. You smile and motion it down. She smiles wryly back, sensing that, once again, you are encouraging her to be more resilient.
- 'Less able' Katy has not written a thing. You verbalise the first half of a sentence and she finishes it. Then she writes it down and off she goes.
- You and your teaching assistant circulate for a couple of minutes armed with highlighter pens. You randomly zoom in on students who are likely to have misspelled words and either highlight them or put a dot in the margin for the student to work out where the mistake is.
- On your rounds, you have noticed the clunky overuse of 'this' at the start of sentences. You stop the class and explain how they can use 'which' clauses (relative clauses) to combine sentences into fluent complex sentences.

- You come to Matt, incredibly able but prone to prolixity. He must cut out ten unnecessary words before continuing.
- Graham has written a page and a half of scrawled nonsense and is swinging back in his chair. You hand him a piece of paper and tell him to redraft the first paragraph, this time using the paragraph structure you have given him. You sense potential defiance and remind him that it is breaktime after the lesson.

In this scenario, all the students are given the same task, yet your response to individuals is different. These responses are decided not according to preconceived assumptions of need, but to genuine needs as they arise. High expectations are in place because you set the bar high to start with. You then differentiate downwards as you experiment with the most suitable strategy to hoist each individual child up. This is a highly subtle skill that takes many years to learn. You will never master it fully – no two children are quite the same!



We believe that much that is promoted as good differentiation practice is both unmanageable and counterproductive: it is not humanly possible to personalise planning for each and every child, nor, as often suggested, is it possible to create three levels of worksheet for every lesson.

The following strategies provide you with some simple, transferable ideas to help you challenge your students – and yourself.

1. Make Them Single and Challenging

How can I prepare lessons that challenge every student?

In recent years, there has been a trend to use *all*, *most* and *some* learning objectives at the start of lessons to cater for differing student entry points. Take this example from a biology lesson on photosynthesis:

All students will describe the factors required for photosynthesis.

Most students will be able to write a word equation for photosynthesis.

Some students will be able to write a balanced formula equation for photosynthesis.

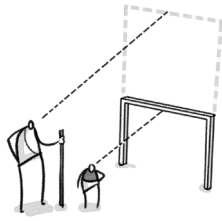
What message does this give to students? As long as I can reach the first objective, I have done enough? Why risk failure and humiliation in front of my peers by attempting the other ones and getting them wrong? Through this method we may well be perpetuating low expectations.

A single, challenging learning objective is a far more aspirational:

Describe and explain the process and chemical nature of photosynthesis.

As a result, our expectations remain high for all, whatever their starting point. The role of the teacher, then, is to support all to reach, or even go beyond, this point. Naturally, not all will always get there, so our next job will be to work out an alternative approach for these students. Consider the fact that many of the students we categorise as 'low ability', like Evie, may never have been required to meet a challenging learning objective over many years of schooling. Is it any wonder that these children typically make very little progress?

2. Scale Up



How do I gauge whether lesson content is challenging or not?

A rule of thumb is to take into account the expected knowledge, concepts and skills in your subject and teach your classes just beyond that point. So at Key Stage 3, for example, dip into GCSE level; at GCSE, dip into A level; at A level, dip into undergraduate work. In doing so, the most challenging concepts that the assessment criteria require them to know will not be the most challenging topics they will have been exposed to. In fact, we have found that students find it very motivating to be told that they are studying something intrinsically difficult.

One of the most robust findings in experimental psychology is that of the *anchor effect*. Our perceptions, whether we consciously realise it or not, are unduly influenced by the first piece of information we receive on a topic – the anchor, if you like.[3] Imagine you are bartering for a porcelain jug at your local car-boot fair. When you hear from the seller that the price is £100, all negotiations are adjusted up and down from that figure – £55 suddenly sounds like a bargain, even if the jug is actually worth mere pennies.

This works as a useful metaphor for how we should plan for challenge in our classrooms. By exposing students to content at a level usually considered above (or beyond) national expectations, we anchor in challenge. Success is measured by adjusting up and down from here. This also works for the start of lessons. As soon as the students cross the threshold, they should be challenged to think about the topic at hand. For example: What does this picture tell you about …? Write down five things you know about …

If the anchor is set too low so that the content of lessons is less stretching, then, needless to say, overall success will be adjusted up or down from this inferior position. Therefore, if we are to genuinely challenge our students, we must take on the guise of the unscrupulous car-boot seller. Set our original price high and we are more likely to achieve better results than if we set it low. So, for example, introduce GCSE English literature students to the basics of feminist and Marxist critical theory, or in science, when teaching enzyme action and denaturation, explain the intermolecular forces that hold the active site in shape and how this changes as a result of increased temperature.

Critical to the success of this strategy is that not only do you set high expectations, but you also make students aware that you are doing so: 'Today, Year 7 we are doing GCSE standard work!' You are introducing challenging content

3 Daniel Kahneman, *Thinking, Fast and Slow* [Kindle edn] (London: Allen Lane, 2011), loc. 1998–2180.

because you have the highest expectations of them and the faith that they will be successful. But you will need to couch your language carefully – you want to inspire, not overwhelm.

While many students may not grasp these tough concepts at first, with time and patience they will get there. In *Switch*, Chip and Dan Heath write of 'destination postcards': the crystal-clear, long-term goals we must help our students to imagine and strive towards.[4] It is important, however, to remember that they will need to be guided towards these challenging targets in simple, manageable stages, otherwise they will quickly become lost and frustrated (this is an idea we extend in The Long Haul on page 35).

Individual starting points we cannot change; it is the destinations we need to scale up.

3. Know Thy Subject

How can I improve my subject knowledge and ensure that students are thinking deeply about it?

If you are going to stretch and challenge all students, be careful not to neglect your own subject knowledge. Indeed, research demonstrates that a deficit in teacher subject knowledge can be a barrier to student achievement.[5] So, keep up to date with subject-specific journals, websites and research papers, and keep abreast of the latest research findings in your subject area in the media. Resolve to read five books a year that will enhance and add extra texture to your

4 Chip Heath and Dan Heath, *Switch: How To Change Things When Change Is Hard* (London: Random House, 2011).

5 Coe et al., *What Makes Great Teaching?*, p. 2.

subject understanding. Go to the theatre, visit art galleries, subscribe to *New Scientist* or *National Geographic* or watch world-beating athletes in action. A history teacher could read a new biography of Hitler before teaching a unit on the First World War; a geography teacher could watch a series of documentaries on the 2004 Asian tsunami before teaching the topic.

As busy professionals we cannot read around every new topic, but the cumulative effect of a little reading over the years will have a slow but impressive impact. School leaders and subject leaders should also consider putting in place subject content continuing professional development (CPD), as we have at our school. One teacher reads up on a difficult topic, road-tests some ideas in the classroom and then shares the findings with the rest of the department. It is particularly fruitful to focus on common student misconceptions and how to tackle them head on.

A great exercise is to regularly answer challenging exam questions in your subject area and then ask for feedback from a trusted colleague on your performance. Compare your answers to the standard required for an A*. If your work does not meet the standard, why not? What valuable teaching points can you take from this? It is more than likely that you have struggled in the places that your students will struggle too.

Similarly, we should also challenge students to think about subject content. In *Why Don't Students Like School?*, cognitive scientist Daniel Willingham argues that 'memory is the residue of thought'.[6] In other words, we remember what we think about. Challenges should ensure that students are primarily thinking about subject content because, if not, they may remember something very different from that you intended. For instance, your history students might be completing a difficult task, such as writing a rhyming poem

6 Daniel T. Willingham, *Why Don't Students Like School?: A Cognitive Scientist Answers Questions About How the Mind Works and What It Means for the Classroom* (San Francisco, CA: Jossey-Bass, 2009), p. 54.

about life in the trenches during the First World War or completing a presentation on the Tudors using a new high-tech software package. However, if these 'challenges' mean that students have spent most of their time thinking about rhyming schemes or how to add animations to a slide-show, they will not have spent time thinking about the historical content you need them to learn and remember. Challenges should be firmly rooted in subject content.

4. Share Excellence

How can I ensure that my classroom and school environment promote excellence and challenge?

Festooned with bubble writing and pretty pictures, classroom displays often consist of attractive posters which bear little relation to the assessment mechanisms of the subject. So, why not use the display space in your classroom to show an enlarged version of an excellent written response to a challenging question in your subject? This sets the standard of expectation high and gives you something to refer to when describing what excellence looks like in your subject. It is hard for students to aspire to excellence if they have no inkling of what it looks like.

Art departments tend to be fantastic at this. To walk into the classroom of a great art teacher is to be surrounded by examples of excellent student work. Everywhere. What a hugely encouraging message this gives to students.

- This is what excellence looks like.
- This is the standard I expect you to replicate.
- Study it closely and you will see why it's excellent.

Why, then, is this not replicated in other subjects? There is every reason to display an excellent history essay on your wall, annotated to highlight how it meets and surpasses the success criteria, a write-up of a scientific experiment or a particularly complicated mathematical problem.

This can be replicated at a department or whole-school level. Take an area of your school and transform it into a Gallery of Excellence like the one below. (This idea was inspired by Pete Jones of Les Quennevais School, Jersey, who has written a case study for Chapter 7.)

By mounting the work in frames and displaying it in a prominent place, you are making a statement about your values:

- You have high expectations of what students can achieve and expect them to be inspired by the success of others.
- You accept that hard work and effort are needed to master new ideas and achieve excellence.
- You accept that students need to be resilient and keep going when things get tough.
- You promote the idea of excellence as the status quo.

Once established, there are a number of ways in which a gallery like this can be used:

- Subject exhibitions. Over the course of a year, each subject is allocated a time slot when they are expected to display examples of excellent work from their

curriculum area. This also facilitates gallery critique (see Open a Gallery in Chapter 5). Classes are taken on a trip to the gallery for a lesson to admire, analyse and critique the work. The visit then inspires subsequent student work.

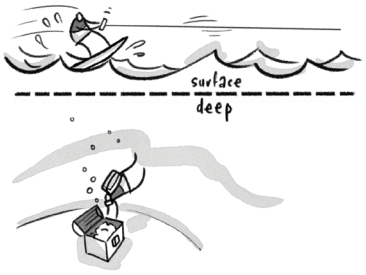
- Aiding transition. Before students join our school, we ask their primary schools for examples of excellent work. By displaying these in the gallery in September, when they start with us, they are immediately made to feel a part of the school community and reminded of the standard we expect them to build on.
- Public viewings. Invite school governors and parents to viewings of the gallery after school. This gives parents a concrete example of the standard of excellence to aim for so they know what to expect of their children and can discuss this with them at home.

5. Unstick Them

How do I support students when they are struggling with challenging tasks?

Skilled teachers know how long to let their students struggle for before intervening. It becomes like a sixth sense and develops with practice and experience. There are many instances when, if your students cannot do something, they will require your help. Having let them struggle for a while, it is time to give them the answer and teach them the strategy they need to get there. Next time, they will have an idea about what to do when they don't know what to do.

This relates to the idea of surface and deep learning, as advocated by John Hattie.[7] Simply speaking, *surface learning* refers to knowing the 'facts' about a topic, whereas *deep learning* refers to how we are able to relate, link and extend this knowledge. The most skilled teachers are able to judge perfectly how much time to spend on surface learning before moving on to deep learning. Problems may arise when too much time (or not enough time) is spent on surface learning before moving on to deep learning.



For example, a history class might be writing an essay exploring and evaluating the events that led up to the Reformation. It might become clear to the teacher that student knowledge about the chronology of the main events is not as secure as it needs to be in order to write the essay well. In this instance, the teaching skill is to stop and unstick them by explaining the events again, or reminding them where to find the information, before returning to the evaluation work.

A contrasting situation might occur in an English lesson when students are studying a novel and looking at the author's use of characterisation. Students may have spent so long finding relevant facts and quotations that the teacher has not moved them on to considering more interesting

7 John Hattie, The Science of Learning, keynote speech presented at OSIRIS World-Class Schools Convention, London, 2014. There is a write-up of the event at: http://classteaching.wordpress.com/2014/05/19/a-grand-day-out-with-hattie-waters/.

ways of interpreting the character's motivations and role in the story. As a result of a lack of extension, students' understanding remains at a simplistic level lacking in depth.

Maintaining a high level of challenge, therefore, is not simply about ploughing on with difficult content regardless. It is about making subtle adjustment after subtle adjustment so that students are not only exposed to new content but they also learn it securely and, with time, extend on it too.

6. Layer Their Writing

What simple, practical strategies can be put in place to challenge students to produce better writing?

Too often we ask students to produce a piece of writing and we accept their first attempt. In fact, we should insist that through effort and determination students produce work that they are rightly proud of. Truly high quality work requires thought, reflection and redrafting. This redrafting process needs careful structure and support. Both of us have really taken to redrafting in our lessons over recent years and have seen the quick, positive effects it can have. However, without clear guidance a redrafted piece of work can become little more than a painstakingly tidy version of the original.

Layered writing, developed by our former colleague, English teacher Gavin McCusker, provides a useful structure for redrafting in any subject area. The inspiration comes from the great artists who develop masterpieces by building their work up in layers. Each layer slowly increases the subtlety and texture of the painting. The same approach can be applied to writing. Having written the first draft of an

analytical essay, a 'writer's palette' can be introduced to scaffold and extend students' ideas, as in the English example on pages 31–32.

Students then check through their work crossing off the analytical words and phrases they have used. Following this, they redraft their work, using more of the words and phrases as necessary to add depth and complexity to their writing.

This type of grid can be easily adapted to suit the needs of any subject. This is just one strategy we have seen that successfully supports redrafting, but there are plenty of others (see Chapter 5). Redrafting strategies like this one are useful because:

- They challenge students to strive for excellence – if it's not excellent, it's not finished!
- They encourage students to carefully reread and critique their own work.
- They build students' pride in their excellent work which they are then more likely to want to share with their peers.

Some teachers are rightly concerned that redrafting takes away vital time from teaching subject content. However, one of the reasons that bad writing habits become engrained and seemingly intractable is that students are rarely given the time to work on their mistakes. Redrafting allows for this.

Deep language analysis – writer's palette

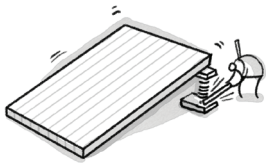
Use a quote	Use speech marks	Embed quotes	Use an adjective in your explanation	Use a verb in your explanation	Use an adverb in your explanation	Explain the effect of a single word in LOTS of detail
Explain the effect of a verb	Explain the effect of an adverb	Explain the effect of an adjective	Explain the effect of a metaphor	Explain the effect of a simile	Explain the effect of alliteration	Explain the effect of onomato-poeia
Explain the effect of oxymoron	Explain the effect of hyperbole	Explain the effect of personifica-tion	Make another suggestion on the same quote	Make connections between the writer's language choices	Make connections between the writer's language devices	Use new words from a thesaurus in your analysis

Write 'this suggests'	Write 'this highlights'	Write 'this implies'	Write 'this reinforces'	Write 'this emphasises'	Write 'this further emphasises'	Write 'this intimates'
Explain the overall effect of the piece because of the writer's language choices	**Starter sentence:** One of the first powerful moments in the poem/novel/play/extract is …	**Starter sentence:** While on the surface … underneath	**Starter sentence:** Despite …	**Starter sentence:** Although …	**Starter sentence:** Even though …	**Starter sentence:** Throughout the poem/novel/play/extract …
Starter sentence: To emphasise a sense of … the writer	**Starter sentence:** To reinforce a sense of …	**Starter sentence:** On the one hand … yet on the other …	**Starter sentence:** In some ways …	**Starter sentence:** Not only … but …	**Starter sentence:** The poem/novel/play questions the idea of …	**Starter sentence:** The most interesting thing about …

7. Benchmark Brilliance

How do I ensure that challenge becomes the status quo in my lessons?

When our students arrive with us in secondary school, they tend to embark on a series of tests known as 'baseline assessments'. Invariably, these are tasks for which there is little or no preparation. More often than not, students flunk them: nerves, lack of practice and uncertainty about expectations all play a part. The danger is that, for some, this poor quality becomes a self-fulfilling general standard.



Thankfully there is another way. With a few nudges in the right direction at this critical point, we can help students to reshape their image of themselves as learners. We should ask students, fresh in the honeymoon glow of a move to secondary school, to do something that truly challenges them. The idea is that in every subject students undertake a task, complete a procedure, interrogate an idea or create a product that takes them far beyond the shackles of what they believe themselves to be capable of.

Before embarking on this task, consider these two questions:

- How will I plan a sequence of lessons that helps me to bleed the absolute best out of my students?
- How will I get them to invest in the task so that they really do care about the final product?

The following sequence provides a useful framework for students to produce a benchmark of brilliance in your subject.

1 Think about the task you are going to give the students to do. It needs to be something that will result in an end product, such as a piece of poetry or fictional writing, a write-up of a science experiment, a mathematical problem, a painting, a historical essay and so on. A rule of thumb should be that you expect students to complete a piece at GCSE level, as we suggested in the Scale Up strategy.

2 Show students examples of excellent finished pieces of work – if possible, more than one.

3 Deconstruct this work together. What are the features that make it so good? How would they start a piece of work like this? What key terms and phrases have been used? What thought processes and stages might they have gone through to get here? Naturally, the emphasis will be different depending on your subject, but be sure to take time with this – it is the most crucial stage. Having a large version of the work available that you can annotate as a class is a great idea. (See Chapter 3 for more ideas on the modelling and deconstruction process.)

4 Before they embark on their own piece of work, make sure that structures and scaffolds are available, such as key words, sentence starters, paragraph headings, section titles and worked examples.

5 As they are working, identify some of the strongest pieces, take a photograph and share it with the class. This will give you the opportunity to engage the class with some peer critique. The following questions are useful: What is good about the piece of work? How does it compare to the example that we deconstructed at the start of the lesson/sequence of work? How could it be improved? What would you add to it? How will you

improve your own piece on the basis of our critique of this example?

6 Ensure that students proofread and hand in their first draft to you for some personalised, written feedback to act on in the next lesson.

7 Ask them to carefully redraft in the next lesson.

Andy used the above sequence with Year 8 students to challenge them to 'write like Jack London'. Using extracts from *White Fang* as models, his students looked closely at London's descriptive style. Slowly and carefully, with suggested vocabulary and sentence structures, the students wrote their own pieces. They redrafted following feedback and each student produced one or two sides of vivid, atmospheric descriptive writing. The last part of the process was to celebrate the work. Each final piece was attached to the student's folder as a reminder of what they should expect from themselves in the future. The hard work, diligence and final products were astonishing.

8. The Long Haul

How do I embed challenge in the long term?

It is a misunderstanding to consider challenge just in terms of individual lessons. In reality these are only stepping stones to longer term goals, which is where the true challenge must lie. The long-term goals of elite sportsmen and women provide a useful comparison – for instance, winning a gold medal at the Olympics or playing in the Champions League. Training schedules will involve a slow and methodical build-up towards these aspirations, based around refining their skills bit by bit after regular and precise feedback.

Lessons should be considered in a similar way – as building blocks towards medium and long-term aims. Often lesson plans will need to be torn up and different routes will need to be forged. As long as we keep the destination in mind (e.g. to be able to solve quadratic equations, to serve a tennis ball successfully, to write a formal speech), how they get there and how quickly they get there become of less importance. Regular, rigorous and built-in assessment plays a crucial role in providing the structure for these goals.

Too easily, we can become obsessed with the details of individual lessons when in fact they are only parts of a greater whole. Challenge, therefore, is about having a clear but realistic vision about where our students need to go – along with helping them to share that vision with us. To make this happen, we need to be forward-thinking and unrelenting.

So what can we do to support this?

Simply telling students to aim for a 'grade A' is all but useless. They need concrete examples. So, as soon as they enter the classroom, immerse them in examples of excellence (as we suggested in Share Excellence). Textiles teacher Steve Bloomer does this brilliantly in his room. Examples of excellence are hanging from the ceiling so that students, when they might be struggling to simply stitch together two pieces of fabric, cannot help but see the overall goal they are eventually aiming for.

Here are some ways to implement The Long Haul:

1 At the start of the course, get students to write a letter to themselves from the perspective of their future self, looking back having finished the course. Why were they so successful? What did they do every lesson that enabled them to achieve their overall goal?

2 Keep referring forward. During lessons, when students successfully master a particular skill or area of knowledge, tell them how that will help them to achieve their long-term goal. In science you might say: 'It's great that you can now describe the steps involved in the process of genetic engineering as this will enable you to answer the six mark extended writing question in your exam.' In English this might be: 'Now that you can vary sentence lengths and structures to create tension, next you can combine these skills in the opening paragraph of your Gothic horror story.'

3 Rather than relying on our feedback, regularly ask students to reflect on their perceptions of their own performance. For example: 'Do you think that this piece of work is as good as you can make it? Is it going to allow you to meet your own goals? If not, what else do you need to do in order to improve it?' Of course, if we

notice that a student has low expectations we will need to intervene to help to raise them.

4 Use a sticker like the one below on the front of exercise books and folders so that students can keep a running record of their progress.

In this subject I am aiming for a grade ___.
In order to achieve this, I will need to ensure that I:

This can be added to as the course progresses, but they have ownership of it. It will help them to visualise how every lesson builds towards their overall goal, which in this case is a successful GCSE grade.

9. Plan for Progression

How do we ensure that we systematically build up student knowledge and skill?

Our planning should ensure that we think about how we will scale up the learning over a period of time. This will vary from subject to subject, but SOLO (Structure of Observed Learning Outcomes) taxonomy provides a good framework for planning for increased complexity in learning.[8]

8 See John Biggs and Kevin Collis, *Evaluating the Quality of Learning: The SOLO Taxonomy* (New York: Academic Press, 1982).

	Level of learning	SOLO taxonomy	What it means?
Excellence	**Deep**	Extended Abstract 	Can extend and apply ideas. Extended thinking.
Secure		Relational 	Can link and relate ideas. Strategies for thinking and reasoning.
Developing	**Surface**	Multistructural 	Many ideas. Basic skills and concepts.
Foundation		Unistructural 	Single idea. Recall and reproduction.

To initially secure surface learning, students need to go from knowing a single fact about a topic to knowing multiple facts – that is, going from unistructural to multistructural. In biology, for example, they may start by knowing that plants need light to live (unistructural). This idea can then be developed with more facts (multistructural): plants need light, water and carbon dioxide to thrive. In order to move this towards deep learning, they will need to be able to link these ideas together (relational) – in this case, they will need to understand that light provides the energy to convert water and carbon dioxide into glucose and oxygen. Developing this idea further (extended abstract), will require them to consider the interplay between photosynthesis and other chemical reactions, such as factors affecting the rate of photosynthesis.

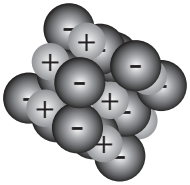
While there is much discussion about the suitability of SOLO as a tool for students, it can provide a useful framework for planning lessons in a number of subjects. However, it is not necessarily applicable to every subject area. It is just another way to conceptualise the transition between surface and deep learning. We provide an explanation of how SOLO can be used to support assessment without levels in the Durrington High School case study in Chapter 7.

So, how can we plan for the transition between surface learning and deep learning?

- Use hinge questions to ascertain whether students have the key knowledge before progressing to the deeper learning (see Chapter 6 on questioning).
- Always have some planned 'extender' tasks for students to deepen their learning. These could be based on the principles of SOLO taxonomy, but they don't have to be. The expectation should be that anyone, irrespective of ability, can go on to the extender task. Here is a science example:

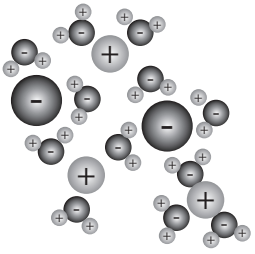
Dissolving it

NaCl crystal structure



Sodium (Na) Chlorine (Cl)

NaCl in water



What is happening here?
Why would this then conduct electricity?

Extenders

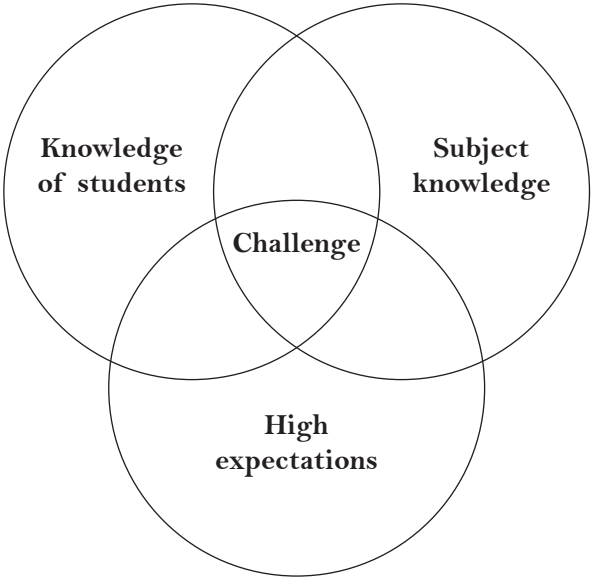
What are the similarities and differences between melting ionic compounds to conduct electricity and dissolving them?

- Andy ensures that every task has some kind of extension question or activity available for those who finish quickly. So that students know instantly where to find this task, he always highlights it in red on his slide-show. Over time, rather than asking 'What do I do next?', they get into the habit of 'looking for the red task'. Be wary though: you do not want students to embed bad habits because they rush to be the first to reach the extension!
- Give students a series of questions that move them incrementally from the factual to the inferential. For instance: What three items is the character wearing? What word does the writer use to describe his mood? Find two examples that demonstrate the character is feeling anxiety. What overall impression do you think the writer was attempting to create through these descriptions?

10. Direct Challenge

How do I account for the fact that students will need to be challenged at an individual level?

As we discussed at the start of this chapter, the most effective form of challenge is personalised and specific to individual students. The diagram below neatly sums up the interplay between the three factors that allows us to challenge our students.



Your aim is to ensure that individuals are working at the optimal place – just outside their comfort zone. This is tougher than it sounds: for instance, Graham Nuthall's research suggests that, on average, 50% of what a child is learning about they already know.[9] Directed challenge is a simple but highly effective way of countering this problem, and it needs little preparation. It does, however, require a clear understanding from you about what the students need to know, or be able to do, next to progress. Once you are clear about this and the students are working on a task, simply move around the classroom and closely observe the work they are producing. Ask them specific questions that will move them on or provide them with the extra knowledge needed to approach the task in a more sophisticated way. The phrase 'Now try …' is especially useful.

For example, a student may be answering an extended question in geography on the impact of tourism on local communities. You notice that they have not supported their

9 Nuthall, *The Hidden Lives of Learners*, p. 35.

points with data. You then direct them to a table on employment figures in a textbook and say, 'Now try incorporating this new information into your answer.' You return later in the lesson to check that the improvement has been completed to a satisfactory standard. If it has you might say, 'Now try answering this question: what effect do you think unseasonable adverse weather conditions would have on these figures?'

While this is possibly one of the purest forms of differentiation, it is important to make it manageable.

- Focus on a set number of students each lesson. This is realistic and will ensure that, over time, all will receive this individual attention at a focused and in-depth level.
- Plan tasks that all students can be getting on with that will allow you to spend your time giving some students individual attention.
- To start with, plan some questions and 'Now try …' examples that you can use. Over time, and as you grow more confident with the topic, you will probably not need to plan these in advance.

This strategy highlights how a complex teaching problem does not always require a complex solution.

11. Read for Breadth

How do we challenge students to pursue our subjects beyond the classroom?

Recently, an incredibly successful science teacher, Pam McCulloch, retired from our school. Her teaching laboratory had a huge selection of scientific journals and A level textbooks in it (bear in mind that Pam taught in a school without

a sixth form). Her students were encouraged to read these books and journals to encourage a greater breadth to their knowledge. By immersing young people in scientific thought, Pam wanted to raise their expectations of what they could read, assimilate and enjoy both in and out of school. Eventually, such reading became the expectation in her classroom. It added a great richness and breadth to student knowledge, preparing them brilliantly for higher education.

However, we need to be realistic and accept that the reading ability of some students might preclude the effectiveness of this strategy. Nevertheless, our experiences in the classroom have shown us that, given the chance, young people never cease to confound expectations. Even though it might not be possible to fill every room with A level or degree-standard textbooks, modern technology allows us to implement this strategy with relative ease.

Here are a few ideas to consider:

- Introduce students to subject-specific websites such as BBC Science or National Geographic. Some teachers post QR codes around their classrooms and subject areas so students can access these quickly on their smartphones.
- Encourage your students to borrow subject-specific academic books from the library.
- Place books and reading material in students' hands yourself and ask them to regularly update you on their reading. The personal touch can go a long way.
- Send home subject-specific reading lists at the beginning of term for parents to purchase.
- Set up a subject-specific Twitter or Facebook account and use this to send students links to useful pages.
- Use the brilliant online tool https://padlet.com/ to post links to useful websites and encourage students to do likewise.

- Set up a class blog (there are many free blogging platforms to choose from, but WordPress is very easy to use and reliable). Students can then be given the responsibility of writing articles for the blog that relate to the topic being studied. The great thing about this is that it can be easily viewed and used by all students.

Extended reading is often regarded as the responsibility of English teachers. We feel, however, that more subjects could and should make this a priority. There is limited curriculum time available for teachers to develop the breadth of their students' knowledge, so all schools should be promoting wider reading, not just through fiction, but also through newspapers and other media.

12. Frame the Challenge

How do I embed a challenging classroom ethos through the language I use with students?

The language we use communicates our expectations of, and beliefs about, students' potential. Below are some phrases that we and other teachers have found successful. They take a bit of practice to get used to, but very soon they become second nature.

- Carol Dweck claims that 'yet' is one of the most powerful words we could use. So when a student says 'I can't do it,' we should end their sentence with 'yet!'
- 'If it's not excellent, it's not finished' is a great mantra for reinforcing the idea of continuous improvement and redrafting.
- Carol Dweck has coined the phrase, 'Working harder makes you smarter.'

- When a student is stuck, rather than giving them the answer straight away, use the response, 'Keep thinking about it. I'll come over in five minutes if you're still stuck.'
- 'There is no such thing as clever.' This is a useful phrase to open a discussion with students about growth and fixed mindsets. Rather than compounding the myth that intelligence is fixed and static, discuss the fact that intelligence can be developed by hard work and effort.
- If you believe that with extra time and thinking the student can realistically cope with the task, you could ask the question, 'What would you do if you weren't stuck?'
- When stuck, remind them of a time when they were not stuck and why they were not. This can sometimes spur them on to overcome the obstacle they are currently facing: 'I know you can do it because I remember …'
- 'If you're not struggling, you're not learning.' We need to remind students that struggle is a good thing and not a sign of weakness.
- Education consultant Chris Moyse has developed a series of posters to be fixed to walls and doors that say, 'In this classroom we talk like …' scientists, writers and so on.[10] The purpose is to encourage the use of subject-specific academic language.

10 Chris Moyse's blog is available at: http://chrismoyse.wordpress.com/.

Reflecting on Challenge

What matters most: the content itself or how I teach it?

The simple answer is both. A rich, challenging subject curriculum is a good starting point. This communicates high expectations to your students: whatever your academic starting point, whatever your socio-economic background, I aim to teach you knowledge and skills that matter in this world. If education is to be a great social equaliser, our students must leave us furnished with 'cultural capital' – the ideas and knowledge that can be drawn on to participate successfully in the intellectual, social and economic life of the land.

We are not arguing that schools should mindlessly reinforce the dominant power structures of society; rather that all young people are entitled to what educationalists Michael Young and David Lambert refer to as 'powerful knowledge'.[11] This is not 'fixed knowledge'; it is more flexible knowledge that should be open to critique, evolution and change. In simple terms, teach your English students *Great Expectations*, but be mindful that they do not take Dickens' slant on the world as gospel. Ask your students to critique the author's beliefs and attitudes to, say, women and religion.

Of course, a challenging curriculum must be offset by good teaching. Quite simply, hard content is harder to teach. Teaching *Great Expectations* to a class of Year 9s will require great finesse and patience. Students must be guided in careful steps, and ample time will need to be forged from a saturated curriculum. Breadth will have to be sacrificed for depth. You, as the teacher, will struggle too.

11 Michael Young and David Lambert, *Knowledge and the Future School: Curriculum and Social Justice* (London: Bloomsbury Academic, 2014).

Our day-to-day classroom experiences have repeatedly shown us that students appreciate being told, 'This is hard, but in time I believe you can get there.' That is why this chapter on challenge comes first in this book, and why we believe it sets in motion all that follows.

Must every lesson be challenging?

No. This would be a mistake. Perhaps the most crucial strategy in this chapter is The Long Haul. As we have discussed, challenge is about taking students on a long journey via small, solid steps. Sometimes you will have to go backwards to go forwards. This is where challenge can become easily misunderstood. New learning needs to be presented in a coherent order that builds on the previous topic. If a child is not secure in a concept, and they are moved on too swiftly, they will carry their knowledge gaps and misconceptions through to the next topic. Over time they will form habits that are increasingly difficult to budge and gaps that are difficult to fill.

One of the criticisms made of the now-discarded national curriculum levels is that they encouraged teachers to move students on too quickly.[12] Rather than being given the chance to extend and master understanding of a topic – say, long division in maths – students were swiftly moved on to a more difficult topic before they were secure in the first area. This would then take on the guise of 'progress' up the artificial numerical grading system, even if the topic needed to be re-taught in its entirety next year because it had not been fully mastered in the first place.

Our simple suggestion is this: if students clearly do not know, or cannot do, something – even if by their age and key

12 See Tim Oates, Assessment Without Levels in Depth [video] (n.d.). Available at: http://www.cambridgeassessment.org.uk/insights/assessment-without-levels-extended-version-tim-oates-insights/.

stage they really should – then teach it until they do, whether your teaching would seem to meet the 'official' definition of challenging or not.

Be careful that you do not conflate challenge with 'task difficulty', which are two different things. Let's say your English class need to learn the meaning of two challenging terms, 'poignancy' and 'ambiguity'. You might be tempted to make this task more difficult by asking them to search for definitions in the dictionary. However, this makes learning the words harder, not easier. The child has to (a) find the word, (b) comprehend its meaning and (c) consider how this meaning might apply to a range of written and real-world scenarios. A more efficient use of your time would be to teach the students the meaning of the two words, and then focus your attention on giving them relevant examples and time to practise the words correctly in a range of contexts.

The take-away is this: always look for the easiest path to learning challenging material, not the hardest.

How do I motivate my students to accept tough challenges?

When we hear and read entreaties that we 'challenge students' as much as we possibly can, we tend to nod in agreement. It seems a no-brainer for the first few seconds … Then the insidious thoughts creep in. Vivid and uninvited images of our most inert and recalcitrant students slumped and dribbling over their desks reveal themselves in all their glory. We wonder, 'How am I going to motivate this lot to embrace the challenge? Keeping them engaged is a challenge in itself!' And so the doubts set in.

There are two counters to this. First, on the psychological front, we need to replace the 'dribbling Joe' images with those of our keenest, most focused students – who usually

make up the majority. Can we deny the majority in favour of the minority? Should we be making excuses for our subjects by teaching inferior material in the hope that children will enjoy it more?

Second, it is worth reflecting on the findings from educational research. The Sutton Trust's *What Makes Great Teaching?* report is clear that the best way to motivate students is *through* the content we teach them. Attempts to motivate students *before* we teach them content tend to be unsuccessful. Motivation usually comes from understanding, not before it. The report also highlights that great teaching constantly asks for more from students, yet does not forget about the importance of their self-worth.[13]

Which teaching strategies will allow challenge to come to life in my classroom?

This is the focus of the rest of this book. Once a challenging ethos has been set, it is time to match it with great teaching. The starting point lies in how we explain new and difficult material in a way that students will both understand and remember.

13 Coe et al., *What Makes Great Teaching?*, p. 23.

Shaun Allison started teaching science and is currently deputy head teacher at Durrington High School as well as a popular speaker. He leads on CPD and is interested in supporting teachers to grow and develop their classroom practice. **@shaun_allison**

Andy Tharby, a practising English teacher, is a research lead with an interest in helping ordinary classroom teachers enhance their practice through engagement with a wider evidence base. His well-regarded blog, *Reflecting English*, covers a range of subjects from improving student writing to finding solutions to the problems and dilemmas faced by busy teachers. **@atharby**

This is a great book. I could have done with this at every stage of my career. It is grounded in common sense, firmly rooted in the realities of the classroom and triangulated with some great researchers and thinkers both in education and beyond.

Mary Myatt, adviser and inspector, marymyatt.com

Shaun Allison and Andy Tharby have produced a rare thing: a book on teaching and learning that is useful and accessible for pretty much every teacher.

Alex Quigley, director of learning and research, Huntington School

I hadn't read an edu-book with such glee in a long time. No gimmicks here. No patronising. No box-ticking. No magic bullet. A book which speaks to professionals, structured around six core principles, anchored in a wealth of experience and evidence.

Hélène Galdin-O'Shea, English and media teacher, research advocate

Shaun Allison and Andy Tharby reveal a number of principles and dissect them to reveal the essence of great teaching – not what observers want, not what third-parties want, but what actually matters for learning and for our students.

David Fawcett, PE teacher, learning innovator and education consultant

Drawing on what research evidence suggests, what they have learnt from inspirational colleagues and, most importantly, from their own practice as serving teachers, Shaun Allison and Andy Tharby offer a carefully structured analysis of how teachers and school leaders can create a climate within which excellence and growth will take root and flourish.

Jill Berry, education consultant, former head teacher

This book is seriously good. It adheres to all the common sense approaches to teaching that matter, paring back practice to some universally acknowledged teaching techniques which have lasted for millennia. As Shaun Allison and Andy Tharby make clear, exemplary teachers are not born great, they become great. I find it hard to imagine how reading this book couldn't help you become a better teacher.

John Tomsett, head teacher and author of *This Much I Know About Love Over Fear …*

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