

Praise for *Developing Tenacity*

Bill Lucas and Ellen Spencer's *Developing Tenacity* is a joy to read – above all because it argues for both the rigour of disciplinary knowledge and a robust approach to the development of character. Also a pleasure to see is its combination of scholarship with practical application, just the kind of thing that schools will find useful.

Julian Astle, Director of Creative Learning and Development, RSA

Connectedness, resilience and courage are core attributes of what it is to be a successful learner. The concept of tenacity developed by Bill Lucas and Ellen Spencer gives us the underpinning research, brings thinking about capabilities together coherently and offers an array of practical ideas for schools.

Philip Grutzner, Principal, Carey Baptist Grammar School, Melbourne

It is vital that schools develop tenacious learners and I strongly welcome this authoritative book on the subject of tenacity. Wellington College is delighted to have its work featured as a case study.

Carl Hendrick, Head of Learning and Research, Wellington College
and author of *What Does This Look Like in the Classroom?*

Developing Tenacity is an inspiring read. As well as being an academic study into tenacity, it's also a pragmatic guide for schools on how to apply its principles. This book is the ideal companion for all educators, regardless of the sector they belong to.

Jon Murphy, Head Teacher, Llanfoist Fawr Primary School

Students' psychological experience of learning and school is an important factor in their academic success. *Developing Tenacity* offers an array of practical ideas for educators on how to create environments that nurture the natural curiosity and drive to learn with which people are born.

Lisa Quay, Executive Director, Mindset Scholars Network

There is mounting evidence for the importance of developing capabilities like tenacity in young people if they are to get on in life. Bill Lucas and Ellen Spencer draw on a wide array of evidence to show how this can be done in schools today and develop a toolkit for a more stimulating learning experience.

Ingrid Schoon, Professor of Human Development and Social Policy,
UCL Institute of Education

An enterprising curiosity, an undefeatable spirit and unflagging tenacity are hallmarks of Round Square schools. *Developing Tenacity* perfectly speaks to our values and, through its compelling evidence and practical guidance, shows how all schools can develop tenacious students.

Rachael Westgarth, Chief Executive, Round Square schools

Developing Tenacity

Teaching learners how to
persevere in the face of difficulty

Bill Lucas and Ellen Spencer



Crown House Publishing Limited
www.crownhouse.co.uk

First published by

Crown House Publishing Limited
Crown Buildings, Bancyfelin, Carmarthen, Wales, SA33 5ND, UK
www.crownhouse.co.uk

and

Crown House Publishing Company LLC
PO Box 2223, Williston, VT 05495, USA
www.crownhousepublishing.com

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First published 2018.

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British Library Cataloguing-in-Publication Data

A catalogue entry for this book is available from the British Library.

Print ISBN 978-178583303-8
Mobi ISBN 978-178583340-3
ePub ISBN 978-178583341-0
ePDF ISBN 978-178583342-7

LCCN 2017948774

Printed and bound in the UK by
TJ International, Padstow, Cornwall

Acknowledgements

Our huge thanks to:

All the pioneering school leaders who have contributed school case studies, including: Jon Murphy, Llanfoist Fawr Primary School; Oli de Botton, Ed Fidoe and Peter Hyman, School 21; Lee Hill, Thoresby Primary School; and Sarah Donarski, Iain Henderson, Carl Hendrick, Ian Morris, Carl Oakman, Matthew Oakman and Guy Williams, Wellington College.

All the educational thought leaders whose work contributed to wider case studies, including: Ron Berger, Expeditionary Learning; Nicky Morgan, former UK secretary of state for education; Lisa Quay, Mindset Scholars Network; and Rachael Westgarth, Round Square schools.

All the thought leaders on whose shoulders we stand, including: Ron Beghetto, Ron Berger, Art Costa, Guy Claxton, Mihaly Csikszentmihalyi, Angela Duckworth, Carol Dweck, K. Anders Ericsson, Charles Fadel, John Hattie, James Heckman, Peter Hyman, Bena Kallick, Tim Kautz, Robert Marzano, Michael Quinn Paton, David Perkins, Ron Ritchhart, Sir Ken Robinson, Martin Seligman, Paul Tough, Dylan Wiliam and David Yeager.

The Comino Foundation for generously supporting our work to develop young people's personal capabilities at the Centre for Real-World Learning.

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Series Introduction: Capabilities and Pedagogy

Ensuring that all people have a solid foundation of knowledge and skills must therefore be the central aim of the post-2015 education agenda. This is not primarily about providing more people with more years of schooling; in fact, that's only the first step. It is most critically about making sure that individuals acquire a solid foundation of knowledge in key disciplines, that they develop creative, critical thinking and collaborative skills, and that they build character attributes, such as mindfulness, curiosity, courage and resilience.

Andreas Schleicher and Qian Tang, *Education Post-2015: Knowledge and Skills Transform Lives and Societies* (2015, p. 9)

Changing roles for schools

Across the world there is a great shift taking place. Where once it was enough to know and do things, our uncertain world calls for some additional learning. We call them capabilities. Others call them 'dispositions,' 'habits of mind,' 'attributes' or 'competencies,' words we find very helpful. Some refer to them as 'non-cognitive skills,' 'soft skills' or 'traits,' none of which we like given, respectively, their negative connotations, tendency to belittle what is involved and association with genetic inheritance.

Our choice of capabilities is pragmatic. A country in the northern hemisphere like Scotland is actively using the term, as is Australia at the opposite end of the earth. If we had to choose a phrase to sum up our philosophy it would be 'dispositional teaching' – that is to say, the attempt specifically to cultivate in learners certain dispositions which evidence suggests are going to be valuable to them both at school and in later life.

We know that the shift is underway for four reasons:

1. One of the guardians of global comparative standards, PISA, is moving this way. In 2012, as well as tests for 15-year-olds in English, maths and science, they introduced an 'innovative domain' called 'creative problem-solving'. This became 'collaborative problem-solving' in 2015, 'global competence' in 2018 and will become 'creative thinking' in 2021.
2. Researchers the world over are beginning to agree on the kinds of capabilities which do, and will, serve children well at school and in the real world. We'll explore this increasingly consensual list later on, but for now we want to share just some of the key thinkers to reassure you that you are in good company: Ron Berger, Guy Claxton, Art Costa, Anna Craft, Angela Duckworth, Carol Dweck, K. Anders Ericsson, Charles Fadel, Michael Fullan, Howard Gardner, Leslie Gutman, Andy Hargreaves, John Hattie, James Heckman, Lois Hetland, Bena Kallick, Tim Kautz, Geoff Masters, David Perkins, Lauren Resnick, Ron Ritchhart, Sir Ken Robinson, Andreas Schleicher, Ingrid Schoon, Martin Seligman, Robert Sternberg, Louise Stoll, Matthew Taylor, Paul Tough, Bernie Trilling, Chris Watkins, Dylan Wiliam and David Yeager. We'd include our own work in this field too.
3. Organisations and well-evidenced frameworks are beginning to find common cause with the idea of capabilities. The Assessment and Teaching of 21st Century Skills project, Building Learning Power, the Center for Curriculum Redesign, the Expeditionary Learning Network, the Global Cities Education Network, Habits of Mind, New Pedagogies for Deeper Learning, Partnership for 21st Century Learning and the Skills4Success Framework are just a few examples. We'd include our own Expansive Education Network here too.
4. Inspirational leaders across the world are very gradually showing us that you can powerfully embed capabilities into the formal, informal and hidden curriculum of schools, if you have a mind to do so. Here are six examples: Col·legi Montserrat in Spain, Hellerup School in Denmark, High Tech High in the United States, School 21 and Thomas Tallis School in England and Rooty Hill High School in Australia. You'll doubtless have your own favourites to add in. We love these schools and their courageous teachers.

Throughout the series, we hope that their stories and our grounded practical advice will serve to ensure that hundreds of thousands of schools across the world see the value of systematically cultivating capabilities *as well as* deep disciplinary knowledge and useful academic and practical skills.

Increasingly, ‘character’ is the word used to describe the cluster of capabilities which are useful in life, with a further clarification of the term, ‘performance character’, suggesting those attributes which are associated with excellence in situations where performance is called upon – an academic test, examination, sports match or any extra-curricular activity in which concentrated demonstration of skill is required.

Indeed, character education has seen a popular resurgence among politicians in the UK in recent years, with former Education Secretary Nicky Morgan’s advocacy of character between 2014 and 2016 (see pages 154–156) and former shadow Education Secretary Tristram Hunt calling for character education to be taught in British schools (Arthur, 2014). The UK’s Jubilee Centre for Character and Virtues argues that teacher education must encompass preparation to teach character education (Arthur, 2014). England’s Department for Education’s *Strategy 2015–2020: World-Class Education and Care* (2016) holds as one of its twelve strategic priorities ‘build character and resilience.’ Although not intending to be prescriptive about the means for achieving this, the Department for Education recognises that the most effective model of instilling these traits *throughout* school life has been demonstrated by the country’s ‘leading state and independent schools’ (p. 36). Character education is seen as a means to:

support the development of character traits associated with: improved attainment at school; improved employability skills; making a valuable contribution to British society as a good citizen. Embedding character education within the school system will create opportunities for all pupils to develop the skills they need to succeed in education and in adult life. (Department for Education, 2016, p. 10)

In the second of Art Costa and Bena Kallick’s book series on the habits of mind, Curtis Schnorr argues that character education should have thinking at its centre because ‘Successful character education is grounded in thoughtful processes’ (Schnorr, 2009, p. 76). Thinking processes and the capabilities of good thinkers – like persisting or managing impulsivity – are foundational to character education.

All this means that as well as ensuring that, as Andreas Schleicher and Qian Tang put it, all young people develop a solid foundation of knowledge and skills while at school, they also need to acquire a set of important capabilities as well.

The purposes of education

Parents, educators and policy-makers alike have many hopes for the education of children and young people. But with so many ideas about what schooling might achieve, it is hard to reach any kind of consensus. Nevertheless, in late 2015/early 2016, the UK parliament initiated an inquiry into the 'purpose of education'. On the one hand, it is a telling admission if a government has to ask such a fundamental question. On the other, it could be construed as a sign of strength, as a recognition that times are changing.

At the Centre for Real-World Learning, we worked with a number of national bodies to see if common agreement could be reached. The list below is what we came up with and is indicative of the sorts of things we might all wish for our children's education to achieve (Lucas and Spencer, 2016). The first half a dozen are particularly relevant to this series of books, but the remainder also give a sense of our values. We want educational goals which:

1. Work for all young people.
2. Prepare students for a lifetime of learning at the same time as seeing childhood and school as valuable in their own right.
3. See capabilities and character as equally important as success in individual subjects.
4. Make vocational and academic routes equally valued.
5. Cultivate happier children.
6. Engage effectively with parents.
7. Engage well with business.
8. Use the best possible teaching and learning methods.

9. Understand how testing is best used to improve outcomes.
10. Empower and value teachers' creativity and professionalism.
11. Proactively encourage both rigorous school self-improvement and appropriate external accountability.

Which capabilities matter most?

Let's look in more detail at the third item on our wish list: seeing capabilities and character as equally important as success in individual subjects. In the last decade, we have begun to understand with greater clarity those capabilities which are particularly useful. Here are two lists, the first from an economic perspective (Heckman and Kautz, 2013) and the second through the eyes of educational researchers (Gutman and Schoon, 2013). Both sets of researchers are trying to describe those capabilities – or, in some cases, transferable skills – which will improve outcomes for individual learners and so for wider society.

Heckman and Kautz:

Perseverance
Self-control
Trust
Attentiveness
Self-esteem and self-efficacy
Resilience to adversity
Openness to experience
Empathy
Humility
Tolerance of diverse opinions
Engaging productively in society

Gutman and Schoon:

Self-perception
Motivation
Perseverance
Self-control
Metacognitive strategies
Social competencies
Resilience and coping
Creativity

The striking thing about these lists, to us, is how similar they are. Many of these widely agreed capabilities are important for the development of tenacity, including perseverance, self-control, engaging productively in society, motivation, resilience and coping.

While we may want to interrogate these terms more closely, the general direction is clear. The demand side, from employers, is similar in its emphasis. The Confederation of British Industry (CBI) launched a campaign suggesting the kinds of capabilities it wanted young people to acquire at school. Their list included grit, resilience, curiosity, enthusiasm and zest, gratitude, confidence and ambition, creativity, humility, respect and good manners, and sensitivity to global concerns (CBI, 2012).

The idea of signature pedagogies

If we are reaching a consensus as to the kinds of capabilities increasingly being seen as valuable, what about the kinds of teaching and learning methods that might cultivate them? Is there a similar level of agreement? In truth, there is probably less so, mainly because, regardless of subject matter, there are some deeply engrained pre-perceptions. Teaching authoritatively from the front, for example, is something that those who see themselves as ‘traditionalists’ might advocate, but which most people would agree is only one kind of good teaching. By contrast, those who see themselves as more ‘progressive’ would argue that good teachers should be much less visible and their pupils engaged in self-organised group activities, another potentially good kind of more facilitative teaching.

In this series we’d like to urge you not to adopt either of these binary positions but instead ask yourself some different questions:

- If I wanted to teach a pupil how to become more creative and better able to solve problems, what methods would I choose?
- If I wanted my students to become more resilient, what methods would I choose?

- If I wanted my pupils to be full of zest for learning, what methods would I choose?

Before you answer, we need to introduce you to an important concept – the idea of *signature pedagogies*. First suggested by Lee Shulman in the context of preparing learners for different vocational routes, these are ‘the types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions’ (Shulman, 2005, p. 52). Shulman talks of the three dimensions of a signature pedagogy:

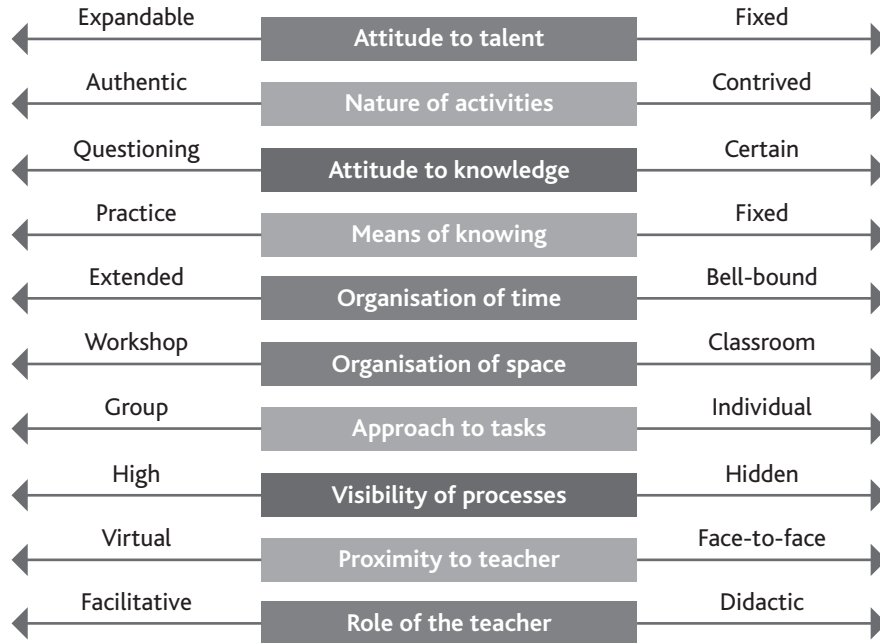
1. Its surface structure: ‘concrete, operational acts of teaching and learning, of showing and demonstrating, of questioning and answering, of interacting and withholding, of approaching and withdrawing’ (pp. 54–55).
2. Its deep structure: ‘a set of assumptions about how best to impart a certain body of knowledge and know-how’ (p. 55).
3. Its implicit structure: ‘a moral dimension that comprises a set of beliefs about professional attitudes, values, and dispositions’ (p. 55).

It’s not much of a leap to think not about the fundamentals of a particular profession but instead of a particular capability. Suppose it were perseverance: how would you model and demonstrate it? What know-how does someone who is a good ‘perseverer’ show, and how can you impart the clues of persevering to pupils? What are the underpinning self-belief and can-do dispositions that reinforce perseverance? Quite soon you are getting under the skin of a target capability. You begin to realise that some methods – having tactics for getting unstuck, asking for help, self-talk to keep going when others have given up – might be what you need to focus on.

Signature pedagogies are the teaching and learning methods which are most likely to lead to the desired capability and, throughout the series, we will be exploring these. In our earlier book, *Expansive Education: Teaching Learners for the Real World* (Lucas et al., 2013) we introduced a ten-dimensional framework to help teachers think more carefully about the kinds of teaching and learning methods they might select. To do this, we encouraged them to reflect more about the kinds of outcomes they desired. Each line of our dimensions then serves as a prompt

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to think about learning methods suited to the desired outcome or outcomes and matched to a specific context.



A ten-dimensional framework of pedagogical choices

Source: Lucas et al. (2013, p. 136)

In some cases (e.g. our attitude to talent and the visibility of processes), we have powerful research evidence from Carol Dweck (2006) and John Hattie (2009) which means that we are *always* likely to choose methods which put us at the left of the continuum whatever we are teaching. But in others (e.g. means of knowing, approach to tasks and role of the teacher), decisions are likely to depend on the nature of the task, the timing within a lesson and the desired outcome. Take 'means of knowing' as an example and it becomes clear that in most situations teachers will want learners to be confident in both theory and practice. The question is really one of timing. Do you tell children that there is something called Ohm's

law before you encourage them to play around with different ways of assembling electrical circuits, or do you let them discover the properties of voltage and current more experimentally before explaining that they are not the first to have noticed some important relationships between the two? The teacher decides.

The more a teacher moves from an 'instruction' approach to teaching, to what Chris Watkins (2005, p. 13) calls a 'co-construction' or more facilitative approach, the more decisions about the use of time, space and tasks look different and the more the role of the teacher changes. 'Good' teaching is an effective blend of the right methods.

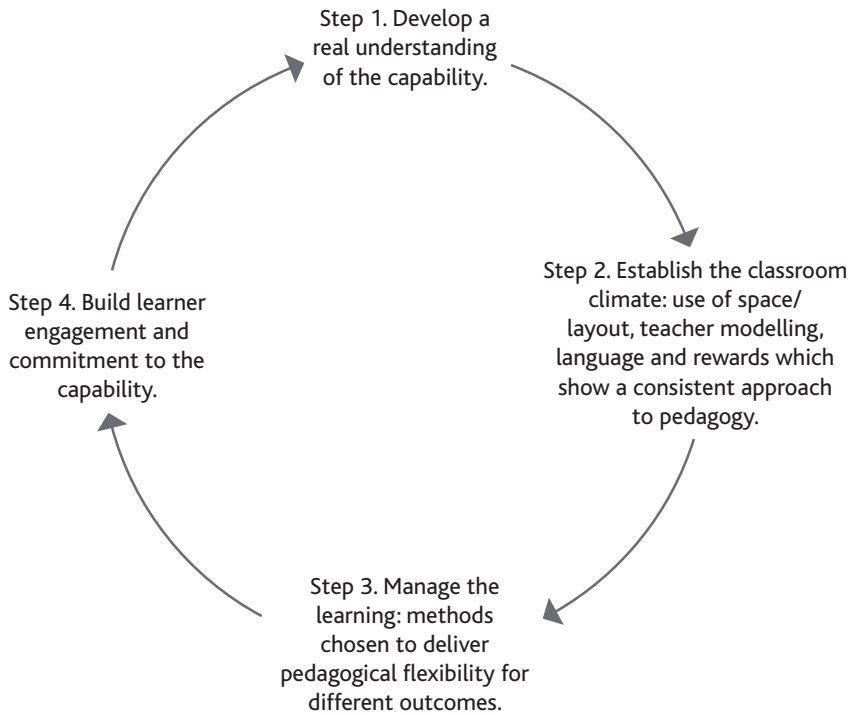
A four-step process to cultivating capabilities in young people

From work with teachers across the world, and from the kinds of initiatives listed earlier in this introduction, there is a considerable amount known about how best to develop the kinds of capabilities at the core of performance character. Essentially it is a four-step process.

Step 1: Understand the capabilities

As well as being subject matter and skill experts, teachers have a vital third role: cultivating capabilities. Just as decisions have to be made about whether the timetable has scope to fit in both French and Spanish, so schools will want to decide which capabilities are most critical to them and on which they are going to focus. In some cases these will be value judgements and in others it will require a careful study of the research. Each book in this series takes a core capability and tries to get underneath its skin.

Developing Tenacity



A four-step process of cultivating capabilities

Source: Centre for Real-World Learning

Young people need more than just subject knowledge in order to thrive – they also need capabilities. The Pedagogy for a Changing World series details which capabilities matter and how schools can develop them.

A key capability is tenacity. Delving beyond 'grit' and 'growth mindset', and encompassing more than the formal curriculum, *Developing Tenacity* draws on the authors' research at the University of Winchester's Centre for Real-World Learning to offer a powerful analysis of what it takes for learners to persevere when confronted with challenges.

Accessible and immediately applicable – Lucas and Spencer have done a remarkable job outlining actionable principles for developing tenacity in young people. Their conception of tenacity is distilled from a wide-ranging synthesis of scholarship and offers a fresh perspective on how to cultivate the confidence, self-control, commitment and connections necessary for learners to persevere in the face of difficulty.

Ronald A. Beghetto, Director of Innovation House and Professor of Educational Psychology, University of Connecticut

Tenacity is a much underrated trait but I believe, from my work on character education and in politics, that it makes the difference between success and failure for most of us. We let the next generation down if we don't teach them both to hold on to a sense of self and to keep going in the face of adversity. I'm delighted to see this inspiring book on such an important quality.

Rt Hon Nicky Morgan MP

Expertise, professionalism, eloquence, grit, spark and craftsmanship taken together are the hallmarks of tenacity in action at School 21. In *Developing Tenacity* Bill Lucas and Ellen Spencer give us the underpinning research as well as practical strategies for any school to develop tenacious students who also produce beautiful work.

Peter Hyman, Head Teacher, School 21

Human societies across all cultures have long recognised the criticality of tenacity for success. But beyond mere words, how should we teach students how to get there? This clever and practical book recommends granular and comprehensive practices, backed by firm research.

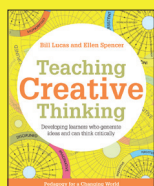
Charles Fadel, founder, Center for Curriculum Redesign and co-author of *Four-Dimensional Education*

To create beautiful work and contribute to a better world, students need tenacity. In this book Bill Lucas and Ellen Spencer describe how schools can inspire and cultivate tenacity, pulling together research and best practices from a wide range of educators to guide schools in creating a culture that brings out the best in students.

Ron Berger, Chief Academic Officer, EL Education

Professor Bill Lucas is Director of the Centre for Real-World Learning. With Guy Claxton he created the Expansive Education Network: a group of teacher researchers who share a common view of the goals of education. These goals are outlined in Bill and Guy's seminal book, *Educating Ruby*. Bill is also co-chair of the new 2021 PISA test of creative thinking, a member of the LEGO Foundation's advisory board and an adviser to Australia's Mitchell Institute.

Dr Ellen Spencer is a senior researcher at the Centre for Real-World Learning. She has a PhD from the University of Warwick, where her doctoral research focused on the impact of policy on school improvement. With Bill Lucas and Guy Claxton, Ellen is co-author of *Expansive Education: Teaching learners for the real world*.



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