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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 we are here in 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.

Developing Tenacity

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 New South Wales.

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, sporting 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 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 students 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 that:

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. pro-actively 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:	Humility
Perseverance	Tolerance of diverse opinions
Self-control	Engaging productively in society
Trust	**Gutman and Schoon:**
Attentiveness	Self-perception
Self-esteem and self-efficacy	Motivation
Resilience to adversity	Perseverance
Openness to experience	Self-control
Empathy	Metacognitive strategies

Social competencies   Creativity

Resilience and coping

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 students 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 student 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?

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+ If I wanted my students 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 students? 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