Learning Without Limits

Rethinking notions of IQ and 'intelligence'
Some contributions from the literature

In our critique of "ability" and ability-based pedagogy (for full analysis, see Chapter 2 of *Learning without Limits*), we have focused on the *consequences* of ability-based judgements and practices for children's learning in schools. We have not engaged extensively with theories of "intelligence", per se. However, the alternative concept of "learning capacity" elaborated through our research (see particularly Chapter 13 of *Learning without Limits*) is congruent in many respects with more recent theories of intelligence that have been emerging over the last half-century. This annotated reading list provides some pointers for further reading.

Balchin, T., Hymer, B. and Matthews, D. (2009)
The Routledge International Companion to Gifted Education Oxford: Routledge
One of the co-editors of this book, Barry Hymer, who has for many years been a consultant in "gifted education", challenges assumptions about "ability" and "giftedness" associated with national policy around "gifted education". His alternative, inclusive conceptualisation (enhancing quality of provision for all, rather than identification of individuals for special treatment) is echoed by many contributors to the book.

Bloom, B. (1976)
Human Characteristics and School Learning. **New York: McGraw-Hill**
Bloom argues that, under the right conditions, most students could achieve in school at a level previously thought to be attainable only by a small minority. Wide variations in students' attainments can be understood in terms of alterable factors: the skills required for the task, the motivation to carry out the task and quality of instruction, including attention to success of each student's learning. His "mastery learning" model of pedagogy focuses on what teachers can do to create the conditions that reduce variation and optimise all students' opportunities for effective learning.

Bruner, J. (1996)
The Culture of Education **Cambridge. MA: Harvard University Press**
In this book, Bruner criticises his own earlier work for being overly concerned with 'solo, intra-psychic processes', what goes on 'inside the head'. He develops his new thesis that 'culture shapes the mind, providing us with the toolkit with which we construct…our worlds'. He argues that schools must 'constantly re-assess what school 'does to the young student's concept of his own powers'.

Chitty, C. (2007)
Eugenics, Race and Intelligence in Education **Continuum International Publishing Group**
This fascinating, scholarly study examines how 'a belief in genetic determinism in the area of human intellectual capacity grew out of a set of ideas about sustaining and improving the quality of the human race, and then went on to profoundly influence the structure of the British education system'. In the final chapter, 'Prospects for the Future', Chitty draws extensively on arguments and evidence in *'Learning Without Limits'* to explore the scope for building an education system based on belief in the fundamental *educability* of all young people.

Claxton, G. (1990)

Teaching to Learn. A direction for education.
London: Cassell
Claxton elaborates a theory of learning that 'casts doubt on the validity and even the existence of the construct of ability'. He suggests that learners possess a whole repertoire of learning strategies, some of which are relevant to school but not available; some of which are available and not relevant; and some of which are both available and relevant. The repertoire is learnable and can be developed. 'If people's learning power does not develop, this is due not to a "lack of ability" but to the absence of appropriate experiences, and/or of the emotional or situational conditions which enable those people to explore and extend the current boundaries of their skills as learners' (p.35-6).

Dorling, D. (2013)

English Education Policy is Based on a Nasty Little Theory
<u>The Guardian, July 22 2013</u>
The "nasty little theory", according to Dorling, is the assumption that children vary greatly in what they might be able to achieve, that some have far greater potential to do well than others, but all have only a fixed potential. This notion of varying but fixed "potential" leads us to limit our expectations of the majority of children. A more enlightened basis for education policy, Dorling argues, would be 'to help all children to learn and do well without being restricted by our expectations.' In another article, 'The Myth of Inherited Inequality <u>(Fabian Review, Vol 122, 1, pp19-21),</u> he makes the link between the notion of potential and inequality. "Potential" is the code word used to talk about inequality as natural. It is 'because the majority of people in many affluent societies have come to be taught that a few are especially able, and others particularly undeserving, that current inequalities can be maintained.'

Dweck, C. S. (2000)

Self-Theories: Their role in motivation, personality and development.
Philadelphia: Taylor and Francis
Dweck's research explores how young people's views of ability impact on their attitudes and learning. She distinguishes between an "entity" and an "incremental" theory of ability. People who hold an entity view interpret success or failure in learning as being due to a mysterious entity inside the learner that is fixed, so he or she can do nothing about it; people who hold an incremental view of ability, on the other hand, believe that their ability can grow and develop. They respond to difficulty or failure by reflecting on their strategies and finding out what they need to do or learn in order to be successful next time. Dweck also looks at what educators can do (for example through styles of feedback) to foster an incremental view of ability in their learners, and how it affects learning outcomes when there is a shift of mind-set from an 'entity' theory to an incremental theory of ability.

Gardner, H. (1993)

Frames of Mind: The theory of multiple intelligences
London: Heinemann
Gardner argues that traditional views of intelligence are far too narrow to encompass the full range of what we understand as intelligent behaviour. In addition to the logico-mathematical and linguistic intelligence focused on in IQ tests (and favoured in school curricula and examinations), he identifies other kinds of intelligence: musical, spatial, bodily-kinaesthetic, interpersonal and intra-personal. To qualify for inclusion in the list, an 'intelligence' must demonstrate problem-solving and problem-creating skills that are important within a cultural context.

-AND see also:
White, J. (2005)

'Howard Gardner: The myth of multiple intelligences'. *Viewpoint*.
London: Institute of Education

White provides a detailed critique of Gardner's theory of multiple intelligences, focusing particularly on chapter 4 'What is intelligence?'. He identifies many flaws in the selection and justification of the seven intelligences (later extended to nine) and in the developmentalist theory that underpins the whole project. He concludes that the theory is "flaky" and (despite having some positive impact on curricula, teaching methods and expectations of students) can also potentially be used to encourage divisive educational policies and determinist beliefs about differential, in born ceilings of potential in relation to the different intelligences.

Howe, M.J.A. (1997)	***The IQ in Question.* London: Sage** Howe argues that 'the received wisdom on human intelligence rests on unsound assumptions, faulty reasoning and inadequate evidence'. Intelligence is real enough, he says, but only in the sense that success and happiness are real. It is an outcome…but it is not a cause. This very accessible and readable book elaborates the basis for Howe's critique and develops more complex explanations for perceived differences of "intelligence". It challenges claims about the racial origins of IQ differences, the apparently restricted changeability of intelligence, the assumption that intelligence is measurable in the way that physical qualities are measurable, and the use of IQ scores to predict high individual achievements.
Hymer, B. (2006)	**Gifted and Talented? Time for a re-think?** *Teaching Thinking and Creativity*, **issue 20** Hymer argues that the concept of "Gifted and Talented" education is 'deeply problematic'. He draws on his own experience as a learner to reconsider the effects of labelling and the work of Carol Dweck (see above) to argue that '21st century evidence suggests that we can change not only students' intelligence, but also their beliefs about their intelligence'. Unfortunately, he says, it is the fixed, entity view of intelligence that informs current national policies in this area. The eschewal of fuzzy concepts like ability altogether is 'the truly radical option', he continues, (citing *LwL* as an example of how this can be realised in practice). Meanwhile, educators need to be open to radical reformulations of what we mean by intelligence and achievement, and to non-normative, non-deterministic concepts of gifts and talents. See also: *http://www.teachingexpertise.com/articles/gifted-talented-timerethink-119*
Hymer, B. (2009)	***Gifted and Talented Pocketbook.*** **Hampshire: Teachers' Pocketbooks** In this book, Hymer explains and develops his alternative, inclusive approach to a 'gifted education, where all pupils are stretched, challenged and engaged.' The book sets out the theoretical ideas in a very readable and accessible way, and includes a detailed exploration of practical approaches reflecting the ideas.
Kincheloe, J., Steinberg, S.R. and Villaverde, L.E. (eds) (1999)	***Re-thinking Intelligence: confronting psychological assumptions about teaching and learning.* London: Routledge** A collection of articles intended to challenge traditional views of intelligence (as fixed or innate, with only a privileged few being endowed with superior intelligence), elaborate alternative constructions and consider the implications for practice. 'When we challenge these perspectives, dramatic changes occur in our perceptions of who is capable of learning. Such a challenge moves educators to take a giant first step in the effort to make schooling a democratic enterprise' (p.8). Argues the need for teachers to be better equipped to study and make sense of the social context within which their students are situated. 'They must become researchers of their students, understanding the way learners' backgrounds mesh and conflict with the culture of schools...In this way, teachers come to understand themselves, their own mediational means and their

relationship to the contexts in which they teach' (p.12.

Lucas, B and Claxton, G. (2010)

New Kinds of Smart: How the science of learnable intelligence is changing education. **Maidenhead: Open University Press**
Lucas and Claxton argue that scientific developments in relation to the understanding of intelligence have yet to be incorporated into the education system. Many myths about intelligence (including the idea that it is fixed) continue to influence policy and practice. The authors review recent research and thinking on the nature of intelligence and explore how these new ways of thinking can (and are beginning to) open up hitherto unexplored possibilities for education.

Perkins, D. (1999)

Outsmarting IQ: The emerging science of learnable intelligence.
New York: The Free Press
Perkins identifies different dimensions of intelligence: neural, experiential and reflective. He argues that experiential and reflective intelligence can both be advanced by learning - 'experiential intelligence through in-depth experiences and reflective intelligence through the cultivation of strategies, attitudes and metacognition'. His concept of "distributed intelligence" links to the LwL idea of learning capacity having a "collective" as well as an individual dimension. Perkins contrasts the "person-solo" ('the dance of the naked brain') with the "person-plus", i.e. intelligent behaviour that occurs in a supportive physical, social and cultural context. ...The inward look leads us only to think of training minds of various kinds in various ways. The outward look of distributed intelligence tells us to pay heed to the physical, social and symbolic setting (p.323).

Simon, B. (1978)

'Intelligence testing and the comprehensive school'
In B. Simon, *Intelligence, Psychology and Education.*
London: Lawrence and Wishart
Simon presents a detailed critique of intelligence testing, identifying the logical, statistical and philosophical problems associated with it. He argues that, in the absence of an agreed understanding of intelligence and means of measuring it per se, psychometicians focused on measuring differences between students in the performance of particular "mental" tasks. This has left as a legacy the assumption that it is important, in education generally, to focus on *differences between* children, rather than what they have in common. Simon concludes that it is 'difficult to contemplate with patience a practice which may determine a child's whole future at age 7, which inculcates a sense of failure and inadequacy among a substantial proportion of our young citizens, a sense of failure constantly reinforced and extraordinarily difficult to overcome.'

Valencia, R.R. (ed) 1997

The Evolution of Deficit Thinking. Educational Thought and Practice.
London: Falmer. Especially the chapter by Arthur Pearl, 'Democratic education as an alternative to deficit thinking'.
"Deficit thinking" refers to the idea that internal deficits in students and their families are the reason that students (particularly those of low income, racial/ethnic minority background) fail in school. The presumed "deficits" include limited intelligence, lack of motivation and limited family support. This collection of essays explores and critiques genetic, cultural and family variants of deficit thinking and offers alternative explanations of why students fail. On the LwL team, we were particularly interested in Arthur Pearl's chapter in which he develops his theory of democratic education as an alternative to deficit thinking. Pearl explains how "unequal encouragements" contribute to lasting social inequity, the enduring hierarchy of privilege and wealth and the important inequalities that are created and maintained in classrooms. The alternative is to recognize the desires that are universal to all human beings, and to reconstruct classrooms so that these desires are equally fulfilled for all students.

White, J. (2006)   *Intelligence, Destiny and Education: the ideological roots of intelligence testing.* **London: Routledge**

This book explores the origins of traditional views of intelligence and their links with the subject-based school curriculum. Arguing that there are no solid grounds for innate differences in IQ or for the traditional subject-based curriculum, White traces both back to the protestant Reformation of the 16th century, and specifically to the more radical forms of protestantism which formed the puritan and dissenting communities of the 17th century and afterwards on both sides of the Atlantic. 'We need to become aware of these roots of our conventional perspectives,' White argues, 'so that we can, where appropriate, make ourselves free of them'. He concludes by arguing for a school curriculum based around notions of personal fulfilment, formulated in a way that makes personal flourishing available to everyone rather than being reserved for a "deserving" minority.