

Brightening Up: How Children Learn to be Gifted

Guy Claxton and Sara Meadows
University of Bristol
Graduate School of Education

Chapter for the *Routledge Companion to Gifted Education*, edited by Thomas Balchin, Barry Hymer and Dona Matthews, to be published by Routledge, 2008

Biographies

Guy Claxton is Professor of the Learning Sciences, and Sara Meadows is Senior Lecturer in Education, at the University of Bristol Graduate School of Education. Guy's recent books include *Hare Brain, Tortoise Mind*, *Learning for Life in the 21st Century*, *Building Learning Power* and *The Wayward Mind*. His main interest is in narrowing the gap between formal and informal models and practices of learning. Sara Meadows has been teaching developmental psychology and writing about children's cognitive development since the 1970s. Her latest book is *The Child as Thinker*. Her research interest throughout her career has centred on the ways in which interactions between parents and children do (or don't) set children up as 'self-running problem-solvers'.

Abstract

This chapter addresses whether the dominant conception of 'gifted and talented' is justified by psychological research and what effects holding this conception has for learners. It argues that both the research base and practical and moral considerations should lead us to exclude ideas of innate and unchangeable degrees of 'giftedness' from our educational practice as incorrect, inhuman, and counter-productive.

I have always maintained that, excepting fools, men did not differ much in [talent], only in zeal and hard work; I still think this is an *eminently* important difference.

Charles Darwin

It is easy to forget that 'brightness' or 'giftedness' are inferences and attributions, not statements of self-evident fact. In this chapter, we want to go back to the behaviours and dispositions on which these inferences and attributions are based, and explore the ways in which they might have been learned, and thus could be subject to further systematic modification. We ask: to what extent do young people learn to act in ways that will lead parents and teachers to attribute 'brightness' to them; and to what extent are such behaviours capable of further modification?

What does 'bright' look like?

When children first arrive at school, it is likely that, within weeks, if not hours, judgements will be made about how 'bright' they are. Let us say, for the sake of argument, that Neneh is quickly seen as 'bright', while Jacob is soon thought of as 'un-bright'. How are these judgements made and justified? On the basis of a rather unsystematic sampling of teachers' views, we offer the following as behaviours that could be taken as symptomatic of the difference in apparent brightness between Neneh and Jacob.

- Neneh is usually physically alert and energetic – 'bright-eyed and bushy-tailed'. Jacob is often listless and slouches.
- Neneh is strongly oriented to adults, alert to their presence. She orients to their voices, makes eye contact and reads their faces for clues as to what they want her to do. Jacob is less sensitive to adults and their non-verbal messages. He sometimes looks like he does not know what he is (supposed to be) doing.
- Neneh's facial expressions clearly signal to adults that she is oriented to them and picking up their messages; her face is mobile and expressive, and changes quickly when she is confused. Jacob's face is harder to read.
- Neneh is sensible: her choices and reactions are mostly appropriate to what is possible or legitimate in the classroom, and she is alert and responsive to cues as to 'what goes around here'. Jacob is more impervious to such subtle indicators, and so is more often 'silly' or inappropriate.
- Neneh is already able to maintain focus on a chosen (or prescribed) activity and ignore some distractions. She knows how to stick at things. When distracted she soon remembers to come back. Jacob does not have such a strong 'anchor' to his prime activity. If things don't go smoothly, he quickly loses interest, or focus, or gets upset.
- Neneh is more articulate. Her questions and responses are more appropriate to context and more precise than Jacob's. Jacob is less fluent at expressing his interests and thoughts.
- Neneh seems to latch on to the core of ideas and the purpose of activities more quickly than Jacob. She is 'quicker on the uptake'.
- Neneh is more used to sitting still and listening to or watching grown-ups. Jacob has not developed this habit. He is used to being more physically active around adults, except when he is watching a screen.
- Neneh has greater ease and fluency with her peers. She is already able to discuss and argue with other children in a calm and rational way. Jacob is rougher and more gauche in his dealing with other children.

- Neneh often remembers and makes links to things that happened a while ago. Her questions suggest she is trying to link things up inside her head. Jacob seems more 'captured' by the immediate present.
- Neneh is proactive and inquisitive; she is keen to explore new things. Jacob is more hesitant or timid.
- Neneh will often see and remark on sensory details and patterns that Jacob doesn't notice. She seems more perceptive.

We could argue about the detail of this picture, but it is abundantly clear that 'bright' is a portmanteau word that contains a number of ingredients. Neneh's 'brightness' reflects the fact that she is more socially sensitive, more adult-orientated, more inquisitive, more resilient, more focused, more interested in connecting ideas and experiences, remembers things better, asks better questions, makes more appropriate comments and interacts better with her peers than Jacob. Once we unpick some of the implicit dimensions and observations on which the judgement of brightness depends, we can see that being bright is not a single thing; it is woven together from a number of separable developmental achievements, some social, some perceptual, some cognitive and some linguistic.

How could 'bright' be created?

We are seeing Neneh and Jacob at the start of school, at age 5. If we had seen them as babies, we might have seen some differences between them in some of these components of 'brightness'. But there is obviously a lot of learning that has gone on, in the first years of those children's lives, that will have contributed to the differences in their behaviours at school entry. We do not yet have to reach for the 'genetic' explanation of 'brightness'.

How could children's family life teach them to be 'minded to learn' in different ways – one that appears 'bright', and one that, viewed through the filter of school, looks dimmer? There are a host of experiences that could have nudged Neneh and Jacob into different behaviours (Hart and Risley 1995, Meadows 2006). We know that 'middle-class' and 'working-class' children are immersed in milieux which differ on average in the quantity, content and style of adult-child use of language. We know that mothers talk more, and in different ways, to their daughters than to their sons. Some carers will be more adept at coaching young children in the art of 'joint attention' than others. Some will get down to the child's level in shared play more often, or find it easier to engage sympathetically with the child's own interests.

The habitual ways in which carers scaffold, guide, interpret, comment on and evaluate children's activities will set up corresponding habits and expectations in the child, some of which may be 'education-positive' and others not. (When you tell an outrageously exaggerated story, do grown-ups regularly laugh and clap or tell you off for bragging or lying? How often do you have a story read to you and discussed with you? Are you allowed to play with things round the house or are you continually told 'don't touch'?). Recurrent rituals may sow and water the seeds of certain ways of thinking and talking. Family mealtimes, for example, are often the arena in which habits of debate and discussion are displayed, and a child's 'legitimate peripheral participation' as fledgling debaters may be invited and shaped – or not (Pontecorvo and Sterponi 2002). Adults model, all the time, ways of solving problems such as 'trying to remember where you left things' (Tharp and Gallimore 1988) or how to understand other people's feelings (Meadows 2006). They are continually teaching, through their actions, how to react when things go wrong, what to do with leisure time, what is worthy of note and what things (that may be perfectly obvious and interesting to the child) get regularly and strategically ignored (Billig 1999).

Thus the habits of thinking, remembering, noticing and talking that go to make up 'brightness' are, as sociocultural researchers have long known (Vygotsky 1978), highly socially contagious. If we push our attention back to individual differences at birth, or focus on heritability studies in twins, or look at the problems associated with genetic disorders (Meadows 2006), we see that there probably is some inherited ingredient to 'brightness'. People do seem to differ somewhat in their genetically underwritten 'mean position' on such dimensions (Plomin and Daniels 1987). But there is such a wide indeterminate zone around that mean position that effectively your environment and your learning determine where you actually end up, to a very large extent. Genes do programme development but they operate in continual interaction with environment and experience and their programmes are, generally, flexible.

Most researchers now believe that young minds are better thought of as developing muscles than fixed-capacity engines (e.g. Resnick 1999). They are made up of a lot of interwoven strands, and they get stronger with exercise. Like musculature, minds have a genetic element to them. Different people are born with different physical 'potential', different ranges and aptitudes. But the training which these muscles receive determines whether they get stronger much more than do these differences in 'potential'. In practice any hypothetical 'ceilings' set by genetic differences are so far away from where any child currently is, that there is no excuse for anyone to impute 'lack of innate ability' when any child finds something hard to master. There is plenty of room for everyone's physical fitness to improve, and likewise there is plenty of room for everyone to get brighter – whatever portfolio of capacities and dispositions their genes and their early years has provided them with. Of course those early years have a big influence on the kind of learner you might become. But a child's learning style and capacity is not fixed: far from it. So we conclude that it is strategically practical, and morally preferable, to focus our attention, as educators, on how children's minds might be capable of development, rather than on what is immutable.

The down-side of 'ability'

Some recent philosophers have given their moral approval to the deplorable verdict that an individual's intelligence is a fixed quantity, one which cannot be augmented. We must protest and act against this brutal pessimism...it has no foundation whatsoever.

Alfred Binet

Despite this broad consensus about the learnability of 'brightness' amongst scholars, the contrary idea, that children's minds, like light bulbs, come in a range of predetermined wattages that we can do nothing about, is still surprisingly popular. The language of 'fixed ability' and the injunction to determine students' 'ability' and teach them accordingly suffuse educational policy and practice in the UK today. Yet such ideas affect the lives of many children for the worse. Once ability attributions are made, they create long-lasting expectations in the minds of both youngsters and their teachers that may be misleading or even damaging. For example, the general-purpose fixed-pot assumption can lead teachers to ignore how variable students are from day to day, subject to subject, and from in school to out of school. They can mistake a bland simplistic summary of a student's performance for 'the truth, the whole truth and nothing but the truth', and, without meaning to, box students in and cramp their style, reducing their ability to *be* different.

Students who have come to see themselves as 'dim' often stop attempting difficult things: what is the point of trying, if you haven't got what it takes? And students who have been led to think of themselves as 'bright' or 'gifted' can also become very conservative learners, afraid to accept new challenges where their chances of success are uncertain, in case their status as 'bright' or 'successful' is put in jeopardy (Dweck 2000). Such students may also come to expect to be treated as 'special', and get upset if they are not.

The fixed-pot view of ability is often associated with a restricted and rather academic view of 'intelligence' in general. Yet recent research tells us that intelligence is as much about thinking slowly as it about quick answering, and that true intelligence should not be confused with verbal fluency or mere 'cleverness' (Claxton 1997). Yet there are still schools where 'slow' is used as a euphemism for stupid. Students with more practical or creative forms of intelligence can, as Sternberg (1997) puts it, be 'essentially "iced out" of the system, because at no point are they much allowed to let their abilities shine through'

Talent is practice

If we're being accurate, when we describe a child as naturally gifted, what we really mean is that the ability to practise a lot comes easily to them.
Malcolm Gladwell (2006)

Like adults, any group of children will vary widely on their current levels of achievement and performance (their CLAPs) on any kind of skills or subject matter you care to name. To deny the fixed-pot theory of 'ability' is not to deny these differences; it is merely to deny a particularly common but pernicious way of talking about them, how they came to be, and what can be done about them. How might we understand the differences between young people's CLAPs differently?

Neneh came to school with high CLAPs on a set of skills and dispositions that matched those that her teachers valued, and on which the smooth and successful running of a school has been assumed to depend. Whatever her 'genetic envelope of possibility', her early apprenticeship has developed her dispositions to be attentive and responsive to adults' non-verbal cues, to search her own memory for links, to sit still and listen, to make appropriate contributions to debate, and so on. Through repeated interactions and observations, over hundreds of bath-times, meal-times and story-times, she has developed the proto-educational mind-set that her teachers think of as 'bright'. Not only is she already more disposed than Jacob to the kinds of learning that will go on in her reception class; she is also more disposed to learn the ropes that she has not already mastered. Jacob's epistemic apprenticeship has cultivated a different set of habits and sensitivities that do not mesh so well with the cultural demands of his school. His ride through school may well be rockier as a result.

When you start looking seriously at why Neneh is 'bright' and Jacob is 'dim', or why Zeinab is such a 'talented' violinist, you find that it is mostly down to *masses of experience and practice*, and a conjunction of conditions, social and material, that enabled and encouraged that amount of learning. People with high CLAPs, whether it be in quiet listening or physical clowning, have got there because they have done a great deal of learning, and have learned how to learn in effective ways. Across a wide range of activities – sports, musicianship, writing, chess, oratory, electronic games – if you want to be outstanding, what you have to do is put in around 10,000 hours of good practice (Ericsson and Charness 1994).

If you track their histories carefully, you find that the 'gifted and talented' have generally been lucky enough – and obsessive enough – to have the support and opportunities required. Mozart's father immersed his children in music from their infancies, carefully marketed their ability to perform and to compose, opened up every opportunity to be a musician, and persuaded his own employers to employ his son. Some small seed of their particular 'talent' may be there initially in the form of a mild interest or even a small aptitude; but that seed could equally well have been sown by a chance event, or even by the unjustified attribution of talent by a proud parent. Your elder siblings might have 'bagged' being good at sports and socialising, so you are looking around for something to be good at in your own right – when along comes a second-hand violin. The reason that virtuosi are so rare is because most of us don't put in the hours. We lack the desire, the emotional support, the material resources, and we have too many other interesting things to do.

So it is more accurate to see Neneh not as 'innately gifted' but as 'skilled-up' in particular ways. As a result of her intense apprenticeship, she arrived at school already 'gifted and talented' in her use of vocabulary, her ability to ask interesting questions, her skill at social turn-taking, her listening, her use of non-verbal signals and eye-contact, and all the rest. These learned skills will enable her to grasp ideas more easily; to retain what she hears and sees, and refer back to it; to be more confident in communication with unfamiliar adults, and so on – in other words, she looks all-round 'brighter'. But it's not in her genes. It is in the ways she has already learned to learn in more sophisticated ways than her peers. And it is more helpful to see Jacob not as 'at the back of the queue when the brains were doled out', but as playing catch-up in certain social, cognitive and linguistic capabilities. What he needs is a lot of experience and practice, and the support to engage.

As Charles Darwin astutely surmised, almost everyone is born with the 'ability' to be bright, and to be G&T in something. Some children do not get that 'ability' fed. And some get the joy of learning knocked out of them by too much chaos or too tight a prescription of what it means to be 'good' or an education system apparently driven by assessment and labelling. And for some of those, it will be hard, or even impossible, for them ever to catch up completely. Never the less our job is surely to help them develop the 'zeal and hard work' that will enable them to emerge as gifted and talented in their own unique ways.

We can coach everyone in the generic skills of learning. We can help Neneh get over her performance anxiety and the fear of failure that hobble her curiosity and creativity, just as we can help Jacob learn how to listen more attentively and ask sharper questions. Everyone can be coached in how to persist more in the face of difficulty; how to make more use of their imaginations to get ideas; how to learn more productively alongside others; how to capitalise more on the resources around them; how to be their own critical friend; how to look at a situation through other people's eyes; how to choose and create the right kind of challenge for themselves and move on positively from it (Claxton 2002).

Summing up the research in this area, Lauren Resnick (1999, p39) put it like this:

Students who, over an extended period of time are treated as if they are intelligent, actually become more so. If they are taught demanding content, and are expected to explain and find connections...they learn more and learn more quickly. They [come to] think of themselves as

learners. They are [better] able to bounce back in the face of short-term failures.

An up-hill struggle

According to recent research on 'student voice', what adolescents want from school is respect, challenge and responsibility (Flutter and Rudduck 2004). Give them the opportunity, and many of them will find and engage with learning challenges that are well beyond what the prescribed curriculum demands (just as many of them are already doing on their bedroom computers in the evenings). They say they like challenge. They like stretching their learning muscles – provided they see that demanding exercise as a way of getting stronger, not as exposing their 'weakness'. And they know when things are getting too easy and it is time to make it more difficult for themselves. Working with the giftedness in young people should not be about the busy teacher finding an endless succession of new mind games to entertain the fast-finishers. It should be about giving young people the support they need to take on challenges that interest them – and to build their own learning power in the process. Those with both high and low CLAPs can be encouraged to stretch themselves, without having to be labelled and stigmatised. And this applies, we are sure, to learners of all ages, in school and out of school, birth to death.

Yet the pressure on teachers to use students' CLAPs to infer 'ability', to use these bogus judgements as a basis for predicting future performance, and for schools then to be judged on whether these targets have been reached, remains strong. There is even a current suggestion on the DfES Standards website that we should identify 'gifted and talented' students when they are eleven, hive them off into a 'distinctive in-school teaching and learning programme' and put them on a special national 'register', and censure secondary schools who don't ensure they all end up with Firsts from Oxford (or equivalent) – without any recognition of the avoidable damage that would result.

Why is the idea of fixed 'ability' so tenacious? Perhaps it is because the education system has always been concerned with sorting, grading and labelling young people and their educational outcomes, and with finding justifications for so doing. Or maybe ability attributions are attempts by harassed teachers to reduce the overwhelming complexity of a room of 30 young people to something graspable. Bright, average and weak; motivated and unmotivated; well- or badly-behaved; high- or low-achieving; however inadequate these filters are in capturing anything very interesting about students and their lives, perhaps they are necessary filters and defences. If this is so, they come at a high price. And it may be time to find alternative ways of supporting teachers, ones that do not damage students or distort their psychology so much. As Hart et al (2004) point out, it is perfectly fine to sort your students, for practical purposes, into those whose CLAPs are above average, average or below average. But to transmute these pragmatic and provisional groupings of how people are behaving right now into labels that can stick, and harm, for life – that has to stop.

The next ten years

In ten years' time, the antiquated and dysfunctional idea that 'giftedness' is an innate, abiding and situation-independent quality of a fortunate minority of young people must have been removed from the discourse of educational practice and policy. It must instead be widely recognised that this idea exists primarily as a stress-reduction device for teachers, one that comes with unacceptable side-effects for the majority of young people – both those who are designated 'gifted' and those who are not. In its place must come a more humble and pragmatic commitment to helping all youngsters (a) stretch their mental capacities (whatever level those capacities may currently be) – i.e. become more 'gifted' -

and (b) discover the domains of human achievement they would most like to become good at – i.e. become more ‘talented’. We must accept that transitory levels of achievement in any sphere, including sociolinguistic fluency, reflect composites of learned habits, and provide only poor guides to future learning and performance.

References

- Billig, M. (1999) *Freudian Repression: Conversations Creating the Unconscious*, Cambridge University Press: Cambridge.
- Claxton, G.L. (1997) *Hare Brain, Tortoise Mind: Why Intelligence Increases When You Think Less*, Fourth Estate: London / HarperSanFrancisco.
- Claxton, G.L. (2002), *Building Learning Power: Helping Young People Become Better Learners*, TLO Ltd: Bristol.
- Dweck, C.S. (2000), *Self-Theories*, Psychology Press: New York.
- Ericsson, K.A. and Charness, N. (1994) Expert performance: its structure and acquisition, *American Psychologist*, 49, 725-47.
- Flutter, J. and Rudduck, J. (2004) *Consulting Pupils: What's In It for Schools?* RoutledgeFalmer: London.
- Gladwell, M. (2006) A backward view of precociousness, keynote address to APS Conference, reported in *The Psychologist*, 19(7), 4-5.
- Hart, B., and Risley, T.R. (1995) *Meaningful differences in the everyday experience of young American children*. Baltimore: Brookes.
- Meadows, S. (2006) *The Child as Thinker*. London: Routledge.
- Plomin, R. and Daniels, D. (1987), Why are children in the same family so different from one another? *Behavioral and Brain Sciences*, 10(1), 1-16.
- Pontecorvo, C. and Sterponi, L. (2002) Learning to argue and reason through discourse in educational settings. In G. Wells and G.L Claxton (eds) *Learning for Life in the 21st Century: Sociocultural Perspectives on the Future of Education*, Blackwell: Oxford.
- Resnick, L. (1999) Making America smarter, *Education Week Century Series*, 18(40), 38-40.
- Sternberg, R.J. (1997) The concept of intelligence and its role in lifelong learning
- Tharp, R and Gallimore, R. (1988) *Rousing minds to life*. Cambridge: Cambridge University Press
- Vygotsky, L. (1978) *Mind in Society* Cambridge, MA.: Harvard University Press

