What the 21st Century Learning Initiative is all about

Societies worldwide are undergoing massive economic, environmental, technological, social and political changes that challenge traditional values, beliefs and institutional arrangements. Here in England, these stresses are apparent in our education system where nothing is as clear cut as it might once have seemed. Profound questions are being asked as to why so many young people seem so ill-prepared for work, for participation in civil society, or ready to accept lifelong responsibility for their children.

At all levels these are confusing times; it is as if something we once understood is crumbling, decaying and exhausting itself while we are expected to preside as midwives to a new world we can’t yet, quite, understand. We know we have to do something – but what exactly?

Developments in the fields of cognitive science, evolutionary biology and psychology all point to the same, stark fact: the means to adapt to this new world will not come from our present-day thinkers, but from the younger generations, our adolescents – provided that from birth onwards, they are given the right environment to fulfil their potential.

It is in the early years of life that we learn directly and willingly from those around us – in particular from those we admire. Young children are typically enthusiastic and malleable – which makes the sea change at puberty all the more unsettling. Passing into adolescence, these once-pliable children begin to question and challenge existing social practices.

Because adolescence upsets the carefully controlled world of the adult, society has come to perceive it as a threat rather than the opportunity it really is. We therefore expect little from our adolescents; we assume them to be at the mercy of their hormones and liable to make stupid mistakes. We just hope they get through the teenage years intact – do what they’re told, pass their exams and come out the other side with the qualifications they need to get a good job.

This belief in adolescence as an ‘aberration’ – something that shouldn’t happen – is current. The scientific understanding on which it is based, however, is not.

Now that we know so much more about how we have evolved, how we learn and the seismic changes that occur in the teenage brain, it is clear that this approach has done a terrible disservice to both our young people and our society as a whole. Science has revealed the tremendous potential of adolescence. Now the rest of society needs to catch up – in terms of how we teach, and how we engage with our young people.

Indeed, one could confidently argue that it is precisely because we have been failing our adolescents over the past century – by not preparing them to think for themselves – that we are now up against some of the most terrible crises humanity as a whole has ever faced.

This document sets out the strong case that adolescence, far from being an aberration that needs to be contained, is in fact a biological adaptation that has ensured the survival of our species thus far. It examines how England specifically has failed its young people, and how it continues to do so. And it sets out clear steps that need to be taken to create an environment and education system that better serve the younger generation and equip them for a rapidly changing world.
How we learn, the nature of intelligence – and how wrong we’ve been...

The following table lists the outdated cultural and scientific assumptions on which our education system is based, and compares this with what scientists have since discovered about how we develop. The differences are startling:

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<tr>
<th>Assumptions on which our current education system is based</th>
<th>What we understand now...</th>
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<td>The brain is a simple input/output mechanism where a child’s progress is entirely dependant on what it is taught.</td>
<td>The brain is a collection of multiple mental predispositions, each reflecting adaptations made thousands of generations ago. We are born with them – but unless they are stimulated by our environment and personal experience, they disappear.</td>
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<td>Learning has nothing to do with a child’s natural or personal experience</td>
<td>Several million years of clone-like learning have given young children a biological preference for learning through copying adults around them; over those same millennia older children’s experience of having to work things out for themselves means that today’s adolescents also have a strong, biological preference for an apprenticeship-style of learning. As children, we learn direct lessons very quickly – particularly from adults that we admire and who, in turn, understand the need to adapt their teaching to the unique character of each child.</td>
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<td>Adolescence is an ‘aberration’ that has to be managed with more schooling.</td>
<td>Teenage angst is an essential biological adaptation where the teenage brain forces itself to rebel against simply being told something, and struggles (against parents and teachers) for the space to do things for itself.</td>
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<td>Learning from a book or teacher is superior to learning from experience. Or, theory trumps practical application.</td>
<td>The brain works best when it is building on what it already knows; when it is given the opportunity to think things through for itself in complex, situated circumstances, and accepts the significance of what it is doing.</td>
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<td>Intelligence is measured as the capacity to learn. Children learn most efficiently when knowledge is divided up into chunks called ‘subjects’.</td>
<td>Intelligence is shrewdness, cleverness and knowledge combined with emotional intuition, balance and a strong sense of practicality. Essentially it is the ability to make connections across ‘subjects’, knowledge and personal experience, and apply this “whole intelligence” in a self-reflective and meaningful way.</td>
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What implications does this have?

How we currently educate children and adolescents is utterly at odds with the way they actually learn and develop. Adolescents are predisposed not to sit passively in a classroom and do what they’re told – and no teacher, however commanding, can override several million years’ evolutionary programming.

However, as a time-limited genetic predisposition, the features of adolescence – the risk taking, the exuberance and the outrageous questioning of the status quo – are there for a time, but they disappear as the young person grows older. If the adolescent is prevented (by over cautious parents or a too rigid system...
of formal schooling) from experimenting and working things out for itself, it will lose the motivation to be innovative or to take responsibility for itself when it becomes adult. To over-school adolescents is to rob them of the once-in-a-lifetime opportunity to grow up properly. We all pay the price.

What needs to change?

It has taken England a long time to accept the transformative nature of learning, preferring instead (as proposed in 1944) that only a minority merited an education that taught them to think for themselves. With a mid-nineteenth century mindset still operating in 1944, the post-war Government thought that those not quite good enough to go to grammar school should receive a technical education, but that the majority needed only an education in "routine" skills. Even that came at a frightful cost for, desperately short of resources, Parliament cut three years off the elementary school curriculum to help create the four-year secondary school much to the detriment of young people's long term social development. England is still paying the price for ignoring, in some of the most deprived parts of this country, the implication of providing five or six generations of economy schooling, largely predicated on providing skills that were already redundant.

Now that we understand the grain of the brain, we simply cannot continue as we are. But this is not simply a matter of changing our education system. To begin supporting how our children naturally learn (and thus equip them to thrive in this fast-changing world), there must be a paradigm shift – a totally new way of thinking about the bringing up of children. This has enormous implications for the role of the home and the community, almost as much as it does for the school.

The 21st Century Learning Initiative recommends the following:

**Rejoin the practices of primary and secondary education.** The primary and secondary school system was set up as a compromise between two conflicting views on how to educate children. Some felt children should be taught by subject (as exemplified by grammar schools), while others believed social development and the ability to make connections across subjects was more important (as exemplified by elementary schools). The system we have today was not set up in the best interests of children, but rather as a way of fudging together these two opposing camps to create one national system. In fact, recent research suggests that this transition at the highly sensitive age of 11 can be traumatic enough to set a child back developmentally.

**Design a new pedagogy that is sympathetic to the way children develop.** Younger children naturally learn from their teachers, so we should capitalise on this through smaller teacher-pupil ratios. The more care and attention given to a child's development in the early years, the better equipped they are to direct their own learning in adolescence. Equally, secondary education should be transformed to give adolescents the opportunity they crave to manage their own learning and progression.

**Invest in training highly able teachers.** The transformation of education is more dependent on the quality of future teachers than it is upon structures, and has very little to do with buildings. Productive pupil / teacher relationships are based on explanation, on talking things through and exploring issues in their entirety. Which is why future teachers not only need to know a lot, but be wise enough to adapt their teaching to the needs of each child and class, taking into account factors such as socio-economic profile and geographical area, as well as individual development. With this in mind, we call for a new model of teacher education that combines the highest understanding of subject content (the secondary model) with equally demanding knowledge of pedagogy and child development (the primary model).
**Restore the importance of home and community as places of learning.** Down-playing the role of the home (in the creation of the emotions) and the community (in creating a sense of social responsibility), has so over-extended the role of ‘institutional’ learning that it fails to induct young people into the much less structured and problematic world of adult life. Given the inherent limitation of schooling it seems essential for a child to have an intellectual life outside school – like a three-legged stool that stays upright however uneven the ground, a balanced education depends on the three legs of home, school and community.

Such whole-systems thinking will only be effective if it is unconstrained by conventional assumptions, or current institutional priorities or political dogma. These findings require a departure from the current way of doing things so radical that normal processes of incremental innovation will not be adequate. Neither top-down political imposition nor unsupported grass-roots innovators can create these kinds of change.

The Initiative will now seek to create local partnerships able to undertake this work at local level and over many years. It will be these communities that, by transforming their education systems, will truly release human potential at unprecedented levels.

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