

IMPEDIMENTS TO CHANGE

There are many significant factors that can impede the rate of change, if not change itself. Some, like the cost of resourcing new subjects are financial, others are philosophical or political and some based on current school systems which are so diverse as to make change difficult. These include . . .

+ The present curriculum and school structure: It is difficult to think conceptually of a new curriculum when we are conditioned by the one we have. We need to question everything: what we teach, how we teach, who decides what we teach, how we measure what we do, the future of schools, of teachers, the place of technology, what really matters

+ History of education and embedded social attitudes / stratification and the proliferation of school types (state / independent, comprehensive / grammar; academy / free schools, 6th Form Colleges / Colleges of Further Education

+ Bias against the majority of students who are in non-selective schools, usually attributing comprehensive education as having less rigour, lower standards and expectations and being less ‘academic’. This creates social problems and other problems such as dampened expectations and difficulties with staffing

+ Poverty. Mahatma Ghandi’s maxim *"A nation's greatness is measured by how it treats its weakest members"* applies in education as well as in law. If we cannot provide schools that help our weakest children, those who struggle to learn or who are being raised in emotional and financial deprivation, then we have failed. Our schools – and our curriculum – must work for all.

+ Funding and the cost of implementing change This is a serious consideration for schools and even when changing courses would be advantageous, the paucity of funding mitigates towards the status quo. Government funding is crucial to maintain schools, employ and pay teachers properly and implement significant change even if costs can be made by a new approach to education. (as below).

+ League tables and the over-emphasis of assessment and over-reliance on data. Apart from the obvious limitation that exams only measure a small part of the whole, it is self-evident in listening to universities bemoaning the absence of critical thinking, independent learning skills and initiative that what we have in place is not working. Too much summative assessment has the potential to deaden learning.

+ Party Policies and Government intervention - the use of education for political ends, for public dissemination of national values, to provide conformity, to shape the national identity and for the accumulation of data and to shape aspirations and behaviours,

+ Resistance from teachers who are either comfortable with the status quo and feel threatened by change, or who believe in the current education paradigm. All may have as their primary aim that of giving the best education possible to children in which case the issue is in defining 'best.'

+ Delivery across all sectors. Social mobility is a significant issue and moving children / adults from one social / economic strata to another is not the answer. The problem is having a stratified society in the first place

+ Teacher recruitment and retention and the low value placed on teachers. It is an issue in countries that have not placed value on the profession and turned teachers into social workers, administrators and managers.

+ Unions and interest groups who have entrenched ideas on the purpose and content of education

+ Social / societal expectations of what schools should take responsibility for which has burgeoned in recent years.

+ The exponential increase in 'knowledge' means we have choices to make while ensuring an understanding of knowledge, and the means to understand what is learned, (ie knowledge needs to be embedded and not just accessible), something Plato was onto 2000 years ago, but must not impede learning and understanding.

+ The selection of knowledge – who decides? We have to make careful measured choices about what we teach. Already we have a curriculum

burgeoning with new suggestions about what is necessary: banking, careers, PSHE, cooking, coding, gardening etc as well as calls for subjects like philosophy and ethics to become mainstream. This is the reason why we need to strip away the whole curriculum and start again although many of the primary building blocks may end up in the same place.

+ Vested interests, of which there are many, from inertia to unions to private educational providers / publishers, The education industry is now a huge business, with Pearson's, for instance, having a major voice in how learning moves forward, but whether such independent sponsors should run examination boards (Edexcel) or offer their own BTecs may impede change

+ A belief that the current curriculum serves us well when patently, in some subjects (ie history, economics) it does not.

+ A lack of clarity about the ways to use technology especially as we are about to move into the next phase of computer technology through quantum computers. Vast sums of money have been wasted on technology and even now, schools are left guessing what is the next best thing. We need a curriculum that can operate both unplugged and wired.

+ A lack of demanding, challenging teaching based on high expectations. I think expectations, especially those set by data, are the single most dangerous impediment holding back our children. Ironically, students who struggle with work often work and achieve better when work is pitched at a more adult level. Under teaching is a serious handicap and omnipresent.

+ Blurred ethics and values, a lack of clarity and agreement about the importance of ethics in education. This can be linked with financial interests and the way certain professions are promoted above others, but the teaching of ethics is crucial if we are going to change the mindset of the young.

+ Waste and the dangers of over staffing and over-resourcing our schools. This hardly seems like a problem now, but could be.

+ Teaching assistants are seen as an invaluable part of the workforce having increased dramatically in number over the past decade. The

evidence is they have had little influence on raising attainment levels and it is possible that they have been dragged into the burgeoning workload of the classroom teacher in terms of discipline extra paperwork and administration, resourcing and catering for children with individual needs.

+ Ebacc. This year there are 600,000 tech vacancies in the UK, but GCSE entries in IT and Computing are down 11% from 2017. Ebacc is likely to be costing the UK economy £63 billion per year (The Edge Foundation) as well as causing damage into the take-up of cultural subjects and languages.

+ No easy way of measuring value-added (i)

+ A failure to integrate new technology into education in a way that reduces workloads, improves measurement and aids teaching. We are still struggling as a sector to integrate technology in any meaningful way (ii) (iii)

+ Over resourcing and over stimulation. It may be unusual to suggest that our classrooms are over-resourced and that displays and teaching aids, posters etc can distract rather than assist learning. In an over-stimulated and busy world, it is possible, we are putting too much in the between the teacher and the learner.

+ Children arriving at school lacking basic social skills including communication, play, hygiene etc due to poor or inadequate parenting

+ The division of the curriculum into age-groups / Key Stages (as below!) and example of closed thinking (and needing to be rectifying on my own site as well as elsewhere)

Appendices:

(i) Dylan Wiliam wrote that *Value added is in principle impossible to do fairly. Every educational institution builds on the foundations laid by those who had their students previously, and many (most?) of the crucial variables are unobserved, and possibly unobservable...*

My reply that *'Value added is an measure to aspire to - perhaps AI will give us*

new tools? which elicited the response *Nope. The unobserved variables will get you every time...* to which I replied *I favour AI to observe the unobserved variables over time, but I'm an optimist?* Am I? whatever, the use of other measurements that don't even take into account the level of entry are even more erroneous.

(ii) *'Despite the obvious sense in preparing for an increasingly automated future, education continues to be one of the least future-focussed sectors there is. If anything, educators tend to take perverse pride in their capacity to deal with crises as they occur. However, when it comes to AI and automation, resignedly waiting for the worst is likely to have ruinous consequences.'*

Professor Neil Selwyn Monash University The BERA Blog

'A few commentators have begun to put their necks on the line, proclaiming boldly that robots will replace teachers 'within the next 10 years'. Others more modestly predict that teachers can each expect to soon have their own 'AI assistant'. Either way, most experts appear certain that classrooms and schools are unlikely to remain unaffected for much longer.'

A wide range of AI-driven teaching technologies are already in schools. These include various 'autonomous interactive robots' developed across East Asia. Elsewhere, millions of students now interact with 'pedagogical agents' – software designed to provide bespoke advice, support and guidance about an individual's learning. Also popular are 'recommender' platforms, intelligent tutoring systems and other AI-driven adaptive tutoring – all designed to provide students with personalised planning, tracking, feedback and 'nudges'. Capturing over one million data-points per user, vendors of the Knewton 'adaptive learning system' can claim to know more about any student's learning than their 'real-life' teacher ever could.'

(iii) Catherine Wardman gave voice to many of the frustrations felt by teachers about both the EBacc and technology in a recent rant on twitter:

'What a joke,' she remarked. 'I've just finished my teaching job, having taught ICT for the past fifteen years. The subject of 'computing' has been a failure, now pupils are leaving school not getting the skills required in the outside world. Basic skills, such as using spreadsheets and databases, having only computing on offer excludes so many pupils. ICT is a subject that should be compulsory for all. Now there are only three subjects that seem to matter, English / Maths / Science. Disinterested pupils and over-stretched

staff what a dreadful state education is in. It's heartbreaking and I worry for my own children's future.'