ABSTRACT

          This paper outlines research findings about the future of
work in the United Kingdom and discusses the implications for the future of
education. A 2-year study sponsored by the Royal Society of the Arts predicts
that in the next 20 years, conventional full-time, permanent jobs will almost
disappear; flexible working, in every sense, will be the norm; and the great
revolution of flexibility will blur the boundaries between work and the rest
of life. Globalization and technology are changing the way that businesses
and work are organized and managed. As work and life are redefining
themselves, learning must be redefined also. The aims and organization of
schools are still educating people for the Victorian economy and society. A
curriculum that focuses on drilling large quantities of information into
students' heads is useless when information is expanding exponentially. A
curriculum for 2020 must focus not on acquisition of knowledge, but on
development of competencies, defined as abilities to understand and to do.
Next, the education system must take seriously the fact that people are
different and learn in different ways. At present, there is little
understanding or respect for different ways of learning; work-based learning
is considered a second-class option, while experiential activities are often
viewed as a treat or an add-on. In addition, the education system must
recognize that learning occurs in places other than schools, that fully
integrating information technologies into the delivery of education would
turn the community into a learning resource. (SV)

REDEFINING LEARNING FOR THE NEXT GENERATION

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I want to start by asking you whether you expect the education system of 2020 to look much like the one we have today. My guess is that few of you would answer other than by saying that it's likely to look very different. That is, you understand that the world is changing and that education has to change too.

If I went on to ask you what it would look like in 2020 the answers, if my recent experience is anything to go by, would be diverse and, I fear, somewhat unfocused. Something would certainly be said about the impact of technology. Beyond that there would be little consensus, not just on alternative visions for the future, but even on the factors that might affect the course of change. We are a pragmatic race, and in education more than other areas there is not a strong tradition of visionary thinking. And these days debate about where education might be going always gets bogged down in discussion of the short term impact of whatever batch of reforms is being forced onto the system by the government of the day.

This is, to put it no higher, a pity, because we are I believe coming up to one of those great staging posts in history where we need to look at the really big questions about education. The strategy plant is not one that should be pulled up by the roots very often. But it does need looking at occasionally. We have had a flood of education reform for fifteen years now but we have not looked at the fundamental strategy since 1944, which suggests it might be time for another look. And the questions that need to be asked are - 'what is education for? What do we want education to do for the young people we require to undertake it?

I came to believe these questions need debate through running a two year study for the RSA on what work might look like in 2020. It became clear very quickly that the analysis was throwing up issues about life, not just about work, and that education was a central issue. What I want to do now is to share with you, albeit very briefly, the conclusions of the RSA study and then to look at the implications for education.

Our first conclusion was that the days of the 'job-shaped job' - working for an employer, often on the 40/40 model - are numbered. In 20 years' time it will be almost unknown. Very few people will have conventional jobs. We are well down this track already. Over 70% of the new jobs created in the last 5 years have not been conventional full-time or permanent jobs.

Second, flexible working, in every sense, will be the norm. People will move along a spectrum of activity embracing an infinite variety of working patterns: more will work 'for' themselves, rather than 'for' someone else; even where there is a long-term employer, the relationship will often focus on delivery of a specified output rather than on attendance at a fixed time and place to carry out a fixed role. The home will be the place, or base, for work for at least part of the time for more people than we can currently imagine working this way. More people will work for more than one employer at a time. The labour market has always been a complex and shifting phenomenon; it will become more so.

Third, that flexibility will also affect the way we think about the structure of the economy and industries. By 2020 it will be hard to tell the private, public and voluntary sectors from another or, in many cases, to define industry sectors as we do now. The reasons are on the one hand the spread of the virtual organisation and the emergence of new forms of national and international mobility as technology abolishes the limitations of geography; and on the other the growth of an intermediate labour market - non-profits, community businesses, co-operatives etc - to meet the wishes of some workers for alternative work methods and more importantly to fill the gaps left by the mainstream economy, which won't provide enough jobs to go round. People's careers will go where their skills take them.

Fourth, more people will welcome and expect flexibility in their work. They will expect more family-friendly working, not least because they see that technology makes it easier to organise. Business and governments will want it as the costs of not having it rise and rise. People will want to spread their working/earning lives over more years than they do now - one of the consequences of better health and longer lives.

Fifth, the effects of all these changes will spread far beyond work. The great revolution of flexibility will blur the boundaries between life and the part of life that is work. The skills people will increasingly need at work are also the skills they will, to take just a couple of examples, need to be successful in personal relationships, to manage their dealings with a whole range of organisations that will themselves be operating in new ways.

Why did we conclude this is what is going to happen? Mainly because all the factors that are pushing in this direction are already well-established and will continue to be influential.

Pressures from globalisation and open markets will continue to demand that organisations of all kinds do more for less. This isn't just something for business. Governments will take the same view, because of tension between providing public services and paying for them. Pressures to re-examine the way work is done will be constant. Both the public and private sectors are already changing their views on how best to organise their business as

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work increasingly moves across boundaries. In 20 years' time it will be impossible to make assumptions about what work 'belongs' to any particular kind of organisation.

Meanwhile technology is already changing our understanding of how work can be organised and managed, and where it can be done. There will be new goods and services, shorter product life cycles. Most important, technology will impact on the psychology as well as the geography of work. Peter Cochrane of BT talks of work as 'not a place but an activity that can be conducted anywhere'. Technology is already challenging our understanding of what constitutes expertise, where you put it and how you manage it. I don't think we can over-emphasise the potential of technology - not just ICT - to impact on work.

Nor can we ignore the information explosion. It is hard to get one's head round this, but it is already a huge influence on life and work and will become more so. Where a century ago the volume of information and knowledge was thought to have doubled in a century, and is now thought to double in a few years, some have calculated that by 2020 it is likely to double every seventy-three days.

And let's not overlook social attitudes. The workers of 2020 will have been brought up in a more technology-driven world. They will expect to work in a technology-driven way. We know that the easy assumption that there are no more jobs for life is affecting young peoples' expectations about their working lives; they hanker for security, but don't expect to get it; they expect to work flexibly, and rather like the idea; and they expect to have to look after their own interests in areas where their parents might have looked to an employer - social insurance, pensions and education and training.

I've been describing the knowledge economy. The world in which it sits is not a comfortable one: an uncertain world which offers great opportunity to many but which some will find threatening. In all the uncertainties about the future, however, there are two things about which we can be certain. One is that the effective platform of general education that people will need to function successfully, in and beyond work, will continue to rise. More people will need a better general education than at any time in the past.

The other is, as I have already said, that we can already see this new world coming, and fast. Work, and life, are redefining themselves. And we have to redefine learning too. The case for taking a strategic view of developing education for the longer term seems to me incontrovertible. We do need a view on what education should be about in 2020.

There is a huge amount that is going to have to change. We are still educating people for the Victorian economy and society, in spite of the great wave of reform that has washed over schools in the last fifteen years. A Victorian teacher could go into a school and recognise the aims and organisation and the processes underway. Basic philosophy,

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structures and organisation have not altered. The curriculum still assumes that there is a quantum of information and knowledge which will equip people for life. The pattern of the school day and year are those of an agricultural society. The expensive physical plant of schools is still closed more than it's open. The addition of IT has been just that - an addition. We are not using the opportunity to rethink how things are done. People working in education tend to assume they have been subject to enormous change in the last fifteen years or so. In some ways they are right. But as a Dutch educationalist commented to me recently, teachers think they have changed but their jobs have actually changed less than almost anyone else's. The fundamentals of education have changed very little.

This is I know harsh criticism. It is certainly not aimed at the teachers in our schools who are coping with the initiative of the week. It is a criticism of the failure of society to address seriously the long-term future of education: well beyond the standards agenda or even school improvement as we now know it.

So how should we be trying to change the way we do things? For me, the starting point has to be the curriculum, because that is what answers my central question about what education is about, what it's for. In this area, we are miles off an implementation path for 2020. We are still using the curriculum to drill quantities of information into children's heads. That is largely what is assessed - and what matters in education is what is assessed. Of course there has been much work on development of key skills in the last 20 years, and schools have always had a role in socialisation. That's important, but in formal terms it's been, and in spite of recent improvements remains, on the margins - largely outside the assessment system.

This isn't going to help young people to manage life in the information age (and how do you define an information-based curriculum when information is expanding at the kind of rate I mentioned just now?) Nor will it develop the sophisticated set of competences they will need to succeed in it. I am talking here about competences - defined as the ability to understand and to do - which range all the way from the basics, high levels of numeracy, literacy and IT skills, and understanding how to learn, through areas like understanding of scientific method and the concept of proof, competence to manage change, competence to manage risk, competence in communications and in team working and team building, competence in evaluating and synthesising information and in applying critical judgement - these are just some of what will be required.

We need a curriculum for 2020 which is led not by the acquisition of subject knowledge - though the content must be there as the medium for learning - but by the development of competences like these. Working out what the competences should be will give us a much better answer to the question 'what for' than what we have now. It is also, I would emphasise, a curriculum focused not on what is to be taught, but on what is to be learnt. There is a world of difference in these two starting points, and a switch from one to the

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other would be the single greatest force for change - and change in the right direction - that I can think of. The move would take us into a whole new mind-set.

Next, the education system must take seriously the fact that people are different. We should recognise that in an increasingly sophisticated world, we would do well to revisit our concepts of intelligence. It wouldn't be a bad idea to begin by taking seriously Howard Gardiner's concept of seven kinds of intelligence or Daniel Goleman's of emotional intelligence. What is important about both these approaches is that they reflect understandings of reality. Goleman is especially persuasive, I believe, on the way in which individuals need to develop their emotional intelligence to meet the needs not only of their personal lives but increasingly the demands made by their employers.

By taking these concepts seriously, I mean making active use of them in teaching, learning and assessment. The value system in teaching and assessment remains very narrowly based, in spite of the attempts, now partly reversed, to recognise through GCSE a wider range of abilities than the very traditional ones we label 'academic'. James Burke has suggested that 'Instead of judging people by their ability to memorise, to think sequentially and to write good prose, we might measure intelligence by the ability to pinball around through knowledge and make imaginative patterns on the web' - by which he means not the Internet but the great web of knowledge that is expanding around us. I would argue for an education which respects and develops the talents of every individual, and which does not assign them into artificial hierarchies of esteem.

Recognising the existence of different forms of intelligence has implications for the way we organise schooling. Schools function like a sausage machine. Children come in at one end and go out at the other. In between we expect them to progress at much the same rate in doing much the same things in much the same ways. This is the educational norm, and it tells us again that schools are about teaching rather than learning. But why on earth should we expect this to work? We show little understanding and less respect for the fact that people learn in different ways, and we can't resist giving different values to different ways of learning. A good example is the treatment of work-related and work-based learning as a second-class option, a deficit model for those who 'can't cope' with the standard curriculum. It is good to see some diversity creeping into Key Stage 4, but there is a long way to go. The same applies to experiential learning of the kind that Brathay does so well; seen essentially as a nice-to-have bolt-on, a treat perhaps but not understood as something that ought to be a part of the central curriculum - and, by the way, not just in terms of the ways it helps people learn but in terms of what it helps them learn.

We will not be educating our children adequately in 2020 unless we are able to define for each of them an effective personal learning style, and organise their education accordingly. That sounds like a tall order but is not impossible (especially with modern technology in support). Remember Henry Ford and the cars he offered, and the contrast with what you can get now. The idea of mass customisation is well-understood in some

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areas. Why not in education, which is so much more dependent for success on the individual's own characteristics?

We also need by 2020 a system that recognises that schools are not the only places where people get educated. The curriculum and assessment have to find ways of drawing on the world outside school. In doing so it should become possible to engage parents actively to a much greater extent than we do now. Then there is the question of integrating ICT fully into the delivery of education, using its potential to do the things it can do well and letting skilled teachers concentrate on the interventions they can do best. And in turn that opens up possibilities for new kinds of school organisation, for drawing the community as a whole into our children's schooling, - I could go on, but there isn't time.

Is such a model practical and deliverable? Let me answer that in two ways. One is to say that in many countries round the world, this kind of approach is being taken very seriously indeed and in some is already in operation, or nearly so. In New Zealand, and in parts of Canada, the USA and Australia there are recognisable parallels. Similar developments are on the way in most of the Scandinavian countries and in Poland. In Hong Kong, achieving a stated range of competences is now a requirement for obtaining a university degree and the same system is being piloted in schools. If others can do it, so can we. And the second answer lies in the responses of the many heads and teachers who have contributed to the work I have been doing with the RSA who are firmly of the view that a competence-led curriculum is not only right in principle but entirely practicable.

Developing our education system on the lines I have described - with a competence-led curriculum, the focus on learning rather than teaching, recognising a range of intelligences and learning styles - could not be done quickly. It would take investment of money and time. But I believe this radical change is a necessity. The reforms of recent years have focused largely on standards and structures. These are important - standards especially; but they have almost nothing to say about whether the system can help students become capable of meeting the more complex demands that will be made on them in the future. Going down the road I have proposed might, with luck, help us redefine learning in a way that makes sense in the next century.

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