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Knowledge, Learning and the Curriculum of the Future [1]

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ABSTRACT *This article is concerned with the application of sociological analysis to the development of a 16–19 curriculum of the future. It begins by clarifying the concept of the curriculum with particular reference to the 16–19 phase of education. It then presents a brief analysis of recent developments in 16–19 education in England and Wales and highlights the issues that these developments have raised. The final section of the paper draws on a sociological approach to knowledge and learning to suggest how these issues might be addressed by curriculum policy makers. The article concludes by proposing a model of the 16–19 curriculum of the future based on the idea of 'connective specialisation'.*

The topic of this article is the curriculum, or the way knowledge is selected and organised into subjects and fields for educational purposes. Most of my examples refer to the 16–19 curriculum; however, I shall interpret the term broadly. The curriculum for me is a way of asking questions about how ideas about knowledge and learning are linked to particular educational purposes and more broadly to ideas about society and the kind of citizens and parents we want our young people to become. These are questions that are in danger of being sidelined in current debates about educational policy with their narrow focus on standards and targets.

The article has three parts. The first two parts consist of some introductory remarks about the curriculum as a concept, followed by a brief review of policy developments in 16–19 education since the early 1980s [2]. These developments, I suggest, raise fundamental questions about the future of the 16–19 curriculum. The remaining part of my lecture draws on a number of sociological ideas to suggest how these issues might be tackled in developing a curriculum of the future.

Sixteen is an age of genuine choice and specialisation for many students. It is also an age when many leave formal education never to return and many of those who do continue lack any clear sense of direction and purpose. Not surprisingly almost half of

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those staying on drop out by the time they reach the age of 18. Many factors are involved in this drop-out. However, linking it to the curriculum directs us to the possible influence of the way we select and organise knowledge. Why do we continue to separate programmes in general education from those geared to particular occupational fields? Are we right to value depth over breadth of study? Why do we force young people to make such stark choices at 16 and *not* allow potential scientists also to continue to study literature, history and a modern foreign language (and vice versa) like their fellow students elsewhere in Europe? What do we mean by general education? Is the old liberal idea of the cultivation of the imagination only a form of cultural élitism? Should it be replaced by the apparently more democratic goal of trying to ensure the employability of young people? *Or* can a modern form of general education integrate the two sets of purposes for 16–19 education? Why are some areas of study grouped together and others kept apart history from geography and science from economics, for example, when the problems they deal with are so interdependent in the world outside school?

The curriculum, therefore, is not just an educational question of primary concern only to policy-makers and those involved in schools and colleges. It inevitably reflects our assumptions about the distribution of individual capacities and the kind of culture to which we want young people to have access. It follows that the curriculum will always be to some degree contested and be a political as well as an educational matter.

On the other hand, the 'curriculum of the school' (and here I refer also to colleges) has a special status; it presents knowledge codified in particular ways which has to be learned according to particular rules. It is enshrined as what Michael Apple calls 'official knowledge' (Apple, 1997) and it is assumed to represent the knowledge to which we want young people to have access. At the same time, official knowledge should never be taken as given and questions about it and possible alternatives will always need to be asked.

I have said that my examples will draw largely on the 16–19 curriculum, but my focus has a further limitation. I am primarily concerned with the *academic curriculum* or what elsewhere in Europe would be referred to as the curriculum for general education. The distinction between the terms academic and general is important. In most European countries, 'general' implies something that should in principle be 'available to all'. In England, as in the case of General Science and General Studies, 'general' tends to imply 'lack of depth' and such curricula are often assumed to be inappropriate for 'the brightest students'. To refer to a course as academic, on the other hand, implies some exclusiveness. When we assert that some students are 'not academic', we feel justified in excluding them from what in other European countries would be available to all—namely, general education. General education for 16–19 year-olds in England and Wales is almost synonymous with A levels. Vocational programmes are the only alternative for those not accepted for an A level course. Furthermore, whereas in this country taking a vocational course usually means giving up general education, elsewhere in Europe it is part of all vocational courses—often taking up one-third of study time. This does not mean that these courses in other European countries are always successful. It is the curriculum principle they imply that that I want to stress.

My concern with the 16–19 curriculum is broader than just A levels. I turn, therefore, to a brief review of policy developments in the sector. The policy issues are important, not because they are the main focus of this article, but because the ideas that I and others have developed about the future of the post-16 curriculum have been part of a dialogue with policy-makers and practitioners as well as with other researchers. Educational research and theory can inform policy and practice by pointing to alternative possibilities and by developing concepts for thinking about policy and practice in fresh ways.

However, such possibilities and concepts must relate to the reality that policy-makers and practitioners recognise and share with researchers. Without this empirical element theory is at best utopian and at worst easy to dismiss as just critique. On the other hand, without a commitment to developing alternative possibilities, educational research loses its critical element and becomes little more than a servant of policy.

A major axis of the debate about the 16–19 curriculum since the 1980s has been whether it should continue to be based on distinct academic and vocational qualifications and, more specifically, whether A levels in their present form need to be replaced. Academic/vocational divisions are a relatively new curriculum issue in the UK. They were little discussed prior to the 1980s. This reflected both the traditional narrowness of educational research and its tendency to equate education with what goes on in schools. Academic education for 16–19 year-olds at the time was virtually synonymous with A levels that were taught in school sixth forms, with vocational education being something quite separate and associated with part-time courses in colleges. The idea that the two types of education might be related hardly arose. With the collapse of a labour market for young school leavers in the early 1980s this situation changed dramatically. A whole new section of each cohort of young people, which previously would have left school for work at the earliest opportunity, now began to enter school sixth forms or colleges; as a result, the numbers staying on as full-time students doubled by the early 1990s.

The programmes developed for these new students reflected two assumptions. First, an academic curriculum was assumed not to be appropriate for such students. This meant that the existing academic curriculum of A levels could be left unchanged. The second assumption was that these so-called 'non-academic' pupils would be more likely to learn if the curriculum was made less like what they associated with school and more like work. The result was what became known as the 'alphabet soup' of vocational programmes from the Youth Training Scheme (YTS) and Certificate of Provocational Education (CPVE) to National Vocational Qualifications (NVQs) and General National Vocational Qualifications (GNVQs) [3]. These programmes were little thought out and inadequately piloted before they were introduced; it was hardly surprising that most of them had to be modified or replaced almost as soon as they were launched. The partial exception was the Technical and Vocational Education Initiative (TVEI), which built on the experience of teachers and led to some exciting local curriculum innovations as well as new links between schools and industry. In different political circumstances, TVEI could have been the basis for a very different and much less divided 14–19 curriculum than the one that we now have.

Unchanged A levels and the new vocational courses became the core of the curriculum of virtually every sixth form and college. The academic/vocational divide was no longer just a theoretical idea but became part of the professional experience of many teachers and lecturers. Unlike the previous division between A levels and industrial apprenticeships, the new academic/vocational divisions were largely a product of educational policies. They had little directly to do with changes in the organisation of work. It was this new form of the academic/vocational divide and the problems of progression to which it gave rise that became the main focus of our research here at the Institute of Education's Post-16 Education Centre from the end of the 1980s. In 1990, in the Institute for Public Policy Research (IPPR) Report, *A British Baccalaureate* (Finegold *et al.*, 1990), a group of us from a number of universities developed the idea of a unified curriculum that would replace A levels and vocational qualifications. It was an idea that gained much professional support despite representing a direct challenge to A levels. However, the political argument for a broader and unified curriculum has

proved far harder to win. For the last Conservative Government, A levels represented a beacon of standards and stability. The present Labour Government's attitude is more tactical but the outcome is similar. They appear to be following the advice of focus groups of New Labour voters to leave A levels well alone, regardless of the educational arguments for reform. However, there is also a broader educational issue underlying the failure of the successive attempts, since the early 1970s, to replace A levels. Many different alternatives have been suggested; major and minor subjects, more and slimmer subjects, a core curriculum for all and prescribed domains of study are some examples. However, none of these alternatives to A levels have been linked to a clear set of new educational purposes for the 16–19 curriculum and none have had a precise idea of the form and content that a broader curriculum might take. At the same time, the replacing of A levels, with their key role in distributing opportunities for higher education, would undoubtedly signify a change of educational purposes on the part of government and a different vision of the future of our society. Such a change needs the serious debate it has not yet had; I hope that this article will contribute to that debate.

Politicians in the UK, as in other countries, frequently acknowledge the damaging effects of academic/vocational divisions and there have been a number of attempts to make vocational learning more attractive and raise its status. Since the 1991 White Paper, *Education and Training for the 21st Century*, (DFE/DE, 1991), it has been claimed by successive governments, but with little conviction, that vocational and academic programmes have or should have parity of esteem. However, the process of 'academic drift' has continued. More students opt for academic courses at 16 + and full-time vocational courses have become more like alternative forms of general education taken largely by weaker students; at the same time, work-based vocational programmes become more marginalised and the problem of parity of esteem remains. History neatly repeats itself as arguments for parity of esteem between academic and vocational courses follow the equally illusory claims for parity between grammar, technical and modern schools that were made after the 1944 Education Act. (Banks, 1954).

Academic/vocational divisions are, however, not just a form of curriculum organisation; in separating 'knowledge for its own sake' from 'the applications of knowledge' they parallel the divisions between mental and manual labour in the economy. I shall, therefore, examine the argument that changes in the organisation of work could be the basis for overcoming academic/vocational divisions in the future. First, however, I want to turn to a more recent development in educational policy, which could have even more radical implications for the post-16 curriculum. For most of the history of mass education it has been assumed that the school curriculum embodies the most important educational goals of society. At the same time, it has always been recognised that people continue to learn in a variety of ways after completing their full-time education. However, this continuing learning was not judged as sufficiently important to be an issue for educational policy. This view is beginning to be challenged by the new policy focus on lifelong learning. A government White Paper (Department for Education and Employment [DfEE], 1998) calls for a lifelong learning culture for both economic and political reasons. Everyone, it is argued, has to become a lifelong learner and organisations, private and public, have to become learning organisations.

The political rationale for giving priority to lifelong learning is that it appears to offer a solution to the growing problem of social exclusion. The poverty and dependence on welfare of a section of the population is seen as closely linked to their lack of skills and qualifications. Lifelong learning, it is hoped, will be the basis for bringing them back into the mainstream of society. As with other attempts to deal with social disadvantage that

place responsibility on individuals for structural problems of modern societies, lifelong learning is fraught with contradictions. First, new learning opportunities are more likely to be taken up by those who are already qualified. Second, giving priority to lifelong learning assumes that those who found learning in school difficult will find it easier to learn at work or in the community. What this assumption fails to take into account is that even when they are in employment, those without qualifications will be unlikely to be in jobs that provide any incentives for or even possibilities for learning. Furthermore, there is a serious mismatch between many of the new jobs being created and the level of qualification likely to be reached by those currently unemployed. A more optimistic assessment of the implications of the new interest in lifelong learning derives from the view that it is not just another attempt to deal with unemployment but that it arises from responses to deeper changes in the economy as work becomes more knowledge-intensive. I shall return later in the article to the implications of this view for the future of academic/vocational divisions and the post-16 curriculum more generally.

My conclusion to this brief account of policy developments in post-16 education since the 1980s is that they raise a number of fundamental issues about the curriculum for 16–19 year-olds. The first concerns A levels, designed in 1951 for 3% of each cohort, and now taken by over 30%. To what extent should their assumptions about the selection and organisation of knowledge continue to dominate a 16–19 curriculum which now aims to include the whole of each cohort? Second, should the 16–19 curriculum continue to reflect divisions between academic and vocational learning despite the changes to the division of labour and the occupational structure on which these divisions were based? Third, the idea of lifelong learning implies that learning should be a feature of all organisations and continue throughout people's lives, not just during their initial full-time education. What kind of curriculum would prepare young people to become lifelong learners? I turn next to a number of sociological ideas to explore these issues as a basis for suggesting the principles of a *Curriculum of the Future*.

The idea that we need to approach the curriculum not as just an educational issue but by understanding its role in society can be traced back to the French sociologist, Emile Durkheim. However, it was not until the early 1970s that the potential of such an approach became apparent to educationists in the UK (Young, 1971). The idea that what counts as knowledge, whether in society or more narrowly in the curriculum, is *given*, either because the world really is like that, or because our knowledge of the world is objective and certain, is a deeply held belief that goes back to Descartes. Sociology, however, as well as modern philosophy, rejects this view and locates the objectivity of knowledge in the shared understandings of communities of specialists or experts. Likewise, sociology locates the *givenness* of the curriculum, its subjects and its selection of content, in its professional, institutional and social history. It follows that any particular curriculum cannot avoid expressing certain interests and values. However, locating the objectivity and hierarchies of knowledge socially does not undermine either, despite the fears of the Right (and the hopes, in the 1970s, of some of the Left); it merely reminds us of our responsibility for them. As Thomas Kuhn (1962) famously argued in relation to science, when the existing paradigms for understanding do not work, some scientists see it as their responsibility to turn upside down the rules for what counts as knowledge; at other times they will no less vigorously defend them. More recent work in the sociology of science has extended Kuhn's ideas to the complex relationships between communities of specialists and lay communities in defining what counts as knowledge (Lash *et al.*, 1996). In a similar way, curriculum paradigms are challenged and defended by subject specialists and from outside the professional education

community. The boundaries between lay and specialist knowledge are, of course, far more blurred in education than is the case in the sciences. Furthermore, educational specialists are more ready to draw on lay or political support for their ideas and policy-makers are inevitably selective in the specialists they call on. In the extreme case, as we know from recent educational history, policy-makers can reject the idea that specialist knowledge of the curriculum has any claims to objectivity at all.

A sociological approach to the curriculum argues that the curriculum is *socially* constructed, and specifically that there is a link between the distribution of power, the interests of the powerful and the curriculum. However, this does not mean that a curriculum supported by those in positions of power and influence is necessarily 'good' or 'bad' in itself; the issue comes back to purposes—what we want the curriculum to achieve and what evidence we have that it does.

Sociological research has exposed the powerful interests that underlie official forms of curriculum organisation and content and has argued that the curriculum can operate as a tacit form of social selection—often against the interests of the majority. However, it does not follow that the views of those excluded from power have a more privileged claim to curriculum objectivity. For example, trade union support for NVQs may be welcomed, but no more than employer support does it provide any guarantee of the educational benefits of the NVQ concept of competence.

In my book *The Curriculum of the Future* (Young, 1998) I argue that concepts of knowledge are sanctioned in the curriculum through a process of social stratification that reflects the power of some groups to assert their view of knowledge as beyond dispute. This stratification of knowledge in the curriculum can be illustrated by a variety of examples—the resistance to including geology in the curriculum in the nineteenth century, the preference for Western classics over jazz in school music syllabi and the status differences between science and technology are but a few. More generally, I have argued that viewing the curriculum as a product of the way in which knowledge is socially stratified provides a way of questioning the unstated assumptions of school knowledge. For example:

- the superiority of subject-based knowledge;
- the undervaluing of practical knowledge;
- the priority given to written as opposed to oral forms of presenting knowledge; and
- the superiority of knowledge acquired by individuals over that developed by groups of students working together.

These are analytical hypotheses about the school curriculum. They do not imply statements of value, though they can all too easily be taken to. Their value is that in not taking certain features of the curriculum for granted, they enable us, whether teachers, curriculum policy-makers or researchers, to question the origins of particular ideas about knowledge that are expressed in the curriculum and the educational goals and vision of society that they imply. In particular, they highlight the extent to which assumptions about curriculum knowledge stand in contrast to assumptions about knowledge that prevail outside school.

The problem with this sociological approach as it was developed in the 1970s was that it was assumed to offer an alternative to the mainstream curriculum that was less tied to powerful interests and in some way more democratic and accessible. There was an assumption that a curriculum without these stratifying features was, like a society without social classes, an ideal to strive for. This confused the general process through which knowledge is stratified socially in the curriculum with the particular form of

stratification that was expressed in the curriculum at the time. The idea of a less stratified or even an unstratified curriculum appeared radical (or even dangerous, depending on your view); however, it failed to recognise that not only some form of knowledge stratification—treating some concepts of knowledge as more valuable than others—is a necessary feature of any curriculum, but that some of the existing elements of social stratification had educational and not only ideological value.

The idea that the curriculum is consciously or unconsciously designed to preserve certain interests remains important because it can provide the basis for a realistic assessment of the barriers to curriculum change and in particular the extent to which changes are resisted for ideological as well as for educational reasons. A current example is the much contested view that linear or traditional A levels are superior to the newer modular A levels. The debate was highly politicised by the last government; however, there are educational issues as well as questions of ideology involved. Ideological opposition to modular syllabuses is associated with the idea of a finite 'pool of ability' and that, therefore, only a proportion of each cohort can ever reach A level standard; the higher pass-rates of modular syllabuses, from this perspective, are achieved at the expense of lower standards. Despite its lack of empirical basis, the 'pool of ability' argument remains persuasive and has undoubtedly influenced the present government's decision to restrict opportunities for candidates to retake A level modules. Ideological opposition to modular syllabuses has to be countered by articulating their educational benefits—the feedback they provide to students and the greater opportunities they provide for them to take responsibility for their own learning—and by demonstrating that through rules of combination and synoptic modes of assessment, the educational problems of modularisation can be overcome. The more general point of the example is to illustrate the way curriculum debates are both ideological and educational and that curricula always reflect particular views of society and the distribution of life chances.

I want to turn now to the distinction between a *Curriculum of the Past* and a *Curriculum of the Future* (Young, 1994; 1998) which I have found useful in highlighting the extent to which existing curricula reflect past social divisions as well as current trends and possibilities. Modern societies rely on the school curriculum to give each generation access to existing knowledge. All curricula therefore must to some extent be 'of the past', and at least aspects of their 'conservatism' defended on educational grounds. The issue is the extent to which the present balance of priorities between reproducing the past and prefiguring the future needs to change with changing circumstances—for example, changes in the occupational structure and the accelerating speed with which knowledge becomes obsolete.

I identify the key features of the Curriculum of the Past as follows:

- it embodies a concept of knowledge and learning 'for its own sake';
- it is almost exclusively concerned with transmitting existing knowledge;
- it places a higher value on subject knowledge than on knowledge of the relationships between subjects; and
- it assumes a hierarchy and a boundary between school and everyday knowledge, thereby creating the problem of the transferability of school knowledge to non-school contexts.

Contrast this with the idea of a Curriculum of the Future that expresses:

- a transformative concept of knowledge which emphasises its power to give learners a sense that they can act on the world;

- a focus on the creation of new knowledge as well as the transmission of existing knowledge;
- an emphasis on the interdependence of knowledge areas and on the relevance of school knowledge to everyday problems.

The strength of the latter model of a Curriculum of the Future is the extent to which it relates to wider changes in an increasingly knowledge-based economy and to the idea that a curriculum must not only give students access to existing knowledge but the means to shape knowledge in the future. The idea of a Curriculum of the Future can be a useful set of criteria for evaluating existing curricula even if it is difficult to envisage the school or college that could deliver a curriculum based on such principles. Its weakness is its tendency to polarise 'past' and 'future' in opposition to each other. The idea of knowledge and learning 'for its own sake' is a good example. This cannot be dismissed easily as only a feature of a curriculum of the past, especially if we want student learning to go beneath the surface of problems. Some sense of learning 'for its own sake' is essential; always having to search for the uses of knowledge can itself be a constraint on learning as it can on research. A Similar point can be made about the issue of relevance. The inclusion of a topic in a syllabus may have a pedagogic rationale or it may be there for reasons of ideology or inertia. The relevance of an aspect of the curriculum may also be an expression of the social context in which it is located and the knowledge that students bring to the curriculum. The French sociologists Bourdieu & Passeron (1977) used the term 'cultural capital' to refer to unequal distribution of such knowledge across different social classes—in other words, the knowledge that the curriculum assumes but does not teach. Somehow the school has to make that knowledge explicit and more widely available.

A key difference between the two curriculum models (the *Curriculum of the Past* and the *Curriculum of the Future*) in relation to the 16–19 curriculum is their approach to academic/vocational divisions—an issue I referred to earlier. In exploring this difference I turn next to recent analyses that have linked the overcoming of these divisions to changes in the economy (Young, 1993). Parallel with but separately from the debates about academic/vocational divisions in the curriculum that began in the 1980s (Howieson *et al.*, 1997), a new body of research was emerging in industrial sociology (Piore & Sabel, 1984; Murray, 1988). It began to challenge the pessimistic view of earlier researchers that industrial work under capitalism was necessarily degrading and deskilling and that the only thing that teachers could do was to protect young people from it for as long as possible. Researchers in a number of countries argued that Western economies were at the end of what they described as the Fordist era of mass production. These authors suggested that a new type of production was emerging based on the potential of the new information technology, the flexible specialisation of tasks, high levels of skill and more democratic workplaces. The educational implications of these ideas were picked by up by Finegold & Soskice (1988) in their influential article, 'The failure of training in Britain'. Their analysis depicted our education and training system as increasingly at odds with the needs of an advanced economy. The UK, they suggested, would be forced, by global competition from low wage economies, to take a high-skill route to economic development with profound implications for education and training. Crucial to this analysis was the claim that in the new forms of production there would be little place for manual labour, whether skilled or unskilled, or for vocational education that was tied to specific jobs. The argument was taken further by educationists (Finegold *et al.*, 1990) as the grounds for unifying academic and vocational learning in

a flexible and unified curriculum. The fact, however, that, nearly a decade after the publication of the IPPR report which first advocated this idea, we are little nearer such a curriculum suggests that there were some flaws in the argument that changes in the economy could be the basis for a new curriculum.

A number of points can be made about this new attempt to link political economy and educational policy. First, it did represent a shift in academic thinking; social scientific research was being used to explore alternative educational futures rather than just criticise the present as had often been the case in the past. However, although the optimistic scenario of a post-Fordist economy was only one of the possible outcomes of the economic changes being identified, it tended to be treated as a relatively confident prediction of the future. The educational possibilities of the new economic era became a hypothesis that many educators wanted to believe, not the least because it provided a progressive interpretation of government efforts to give the secondary curriculum a more vocational focus. The economy had long been seen by teachers as anti-educational. Post-Fordist arguments about the need for more flexible, knowledge-intensive workplaces appeared to reverse this. Furthermore, they suggested that education would increasingly be in the driving seat in economies of the future—an education-led economy was envisaged in opposition to the more traditional idea of economy-driven education systems.

These arguments reflected a lack of attention to two sets of factors. First, there were the negative signs in the UK economy—there was very little evidence of more than a few leading edge employers adopting a high-skill approach to production or services. As Keep (1998) has argued so persuasively, there remains continuing scope for companies to make profits on the basis of low skill-production of low quality goods, thereby sustaining a demand for those without qualifications and with limited skills. In this context the incentives for many employers to shift to high-skill production remain weak, as do those for employees to upgrade their skills. Second, the focus of the research in industrial sociology was on changes in workplaces and not enough attention was given to the role of the state (Green, forthcoming) and how, in the UK, the qualification system could be used to resist economic pressures for educational reform (Young, 1999). A high-skill economy might provide the economic basis for unifying academic and vocational learning. However, achieving such an economy will depend on a very different nation state than that which consecutive Conservative governments and, up to now, their Labour successors, have been trying to create. It seems likely that a more interventionist economic role for the state will be needed if the circumstances of late capitalism are to provide the conditions for overcoming divisions between academic and vocational learning.

By the end of 1998, much of the drive had gone out of debates about unifying the post-16 curriculum in England as it has become apparent that the new Labour Government is almost as reluctant as its predecessor to do more than tinker with A levels (DfEE, 1997). In a paper for the Economic and Social Research Council (ESRC) Learning Society Programme, my colleagues and I on the Unified Learning Project (Young, Howieson, Raffe & Spours, 1997) speculated about the links between the unification of academic and vocational learning and the learning society that many Western governments claim they want to create. Will the curriculum in a learning society, we asked, be one in which divisions between academic and vocational learning are overcome or is it more likely that they will be less sharp but take a more sequential form? We argued that the need for theoretical knowledge developed separately from practice will not disappear in any future society, whether or not it takes its present disciplinary and subject-based

form, for it is the major institutionalised basis for reflection and also a major source of innovation. The issue is likely to be whether new relationships are developed between the sites where theoretical knowledge is traditionally produced and taught, such as the universities, and where it is applied (see Gibbons *et al.*, 1994). This relates closely to the question of lifelong learning, which, as I suggested earlier, could well come to dominate the new agenda for schools and colleges. Making lifelong learning a reality will undoubtedly demand new theoretical developments which focus on the concept of learning and on the new relationships that will be necessary between school learning and learning that takes place elsewhere. I want, therefore, to consider some of the implications for a *Curriculum of the Future* of such a shift in both policy and theoretical focus.

Our present idea of 'what a curriculum is' focuses primarily on the organisation of knowledge *in schools* and gives more emphasis to the design and content of learning than the process of learning itself. For a curriculum to promote lifelong learning it is clear that there will have to be a shift in focus from the school—where learning is heavily 'designed' in timetables, syllabuses, and lesson plans—to relationships between learning at school and learning in non-school contexts. Learning in non-school contexts is either not designed explicitly at all or is designed according to quite different priorities to those typically found in schools.

This new focus on informal or non-specialist learning can be seen as part of a wider shift in the process of specialisation in society. By specialisation I refer to the trend in industrial societies for many activities progressively to be undertaken by organisations designed for particular purposes (such as schools and hospitals in the case of education and health) [4]. So pervasive has been this trend that education has become almost synonymous with its specialist institutional forms and has been paralleled by the tendency for forms of activity that people undertake independently of specialist organisations and experts (informal learning is an example) to become less valued. Lifelong learning policies, like the promotion of community care in the health service, can be seen as an attempt to reverse this trend—in other words, a redefining of the process of specialisation.

The promotion of learning throughout people's lives and outside schools and colleges could become a basis for new divisions and inequalities, as learning opportunities become more polarised. On the other hand, it could lead to the formation of *new relationships* between learning in schools and learning which takes place in workplaces and communities, which could be part of a strategy for reducing existing inequalities. These two outcomes mirror the two trajectories of modernisation which Giddens (1994) and Beck (1992) have with Lash (Beck, Giddens & Lash 1994) referred to as technocratic and reflexive modernisation. *Technocratic modernisation* sees information systems and other forms of expertise being applied to more and more areas of life and leading to a world increasingly out of control of any human agency. From such a perspective, the growing inequalities of wealth and educational opportunities, are no more than the unintended but inevitable consequences of the progress of science and industrialisation—a price we have to pay for progress, some would say. *Reflexive modernisation* presents a counter-view and argues that we should apply the critical methods of science to science itself and its applications. It stresses the extent to which, unlike earlier generations, we increasingly 'manufacture our own risks'—in Giddens's phrase. For example, the inequalities of access to higher education that persist despite efforts to widen participation, need to be seen, like environmental problems-as *manufactured* not *inevitable* 'risks'.

From the perspective of reflexive modernisation, the expansion and enhancement of

learning beyond the institutions of formal education is the key to a modern society's capacity to cope with the risks of its own making. However, this does not mean more learning in general or just extending recognition and accreditation to more existing forms of learning, important though both are. It implies what the Finnish psychologist, Yrgo Engestrom calls 'expanded learning' (Engestrom, 1991, 1994). By the term *expanded*, Engestrom means first, learning that goes beyond the context where it originates, whether classroom, workplace or community; second, expanded learning does not just draw on experience but is mediated by teachers—both in the broad sense of the term 'teacher' that recognises that all experts are in some sense teachers, as well as the narrower sense of teachers as specialists in teaching and learning; third, expanded learning which learners have access to the conceptual resources necessary to explore the causes as well as the symptoms of the problems that they experience. Unlike other approaches to learning 'outside the classroom', which place primary emphasis on recognising the experience of the learner, expanded learning depends on an enhanced role for the teacher in creating links between learning in informal contexts and learning in school or college. A *Curriculum of the Future* has to provide for these possibilities.

A promising theoretical basis for linking learning between contexts can be found in recent research which conceptualises learning as 'participation in communities of practice' (Lave & Wenger, 1994). Though originating in research into apprenticeship and other informal contexts where learning is not explicitly 'designed', the approach can be applied to learning that takes place in a school or college. However, while more inclusive than traditional approaches to learning, which can be seen as too teacher- or school-centric, the idea of 'learning as participation' is not without its problems which have been long associated with symbolic interactionist theories in sociology. First, in stressing the importance of treating all learning as a 'social process', it plays down the importance of distinguishing types of learning which may involve different types of interaction between learners and others who may or may not be officially designated as teachers. Second, it tends to reduce all knowledge to the idea of 'situated knowledge' or the tacit or implicit knowledge that members of any community need in order to participate. It thus neglects the relationship between situated knowledge, what is often referred to as know-how or social competence, and knowledge in the more formal sense of 'bodies of knowledge' such as subjects or disciplines that are not tied to specific contexts—in other words, it avoids or at least marginalises the question of curriculum. This problem is well illustrated in a recent book by Wenger (1998) in which he develops this approach to learning. He refers to the curriculum but treats it as a typical rather than a distinctive example of how knowledge is codified in 'communities of practice'. Codified knowledge is for Wenger 'something for newcomers to vie for in their quest for full membership (of a particular community)'. This description of the link between knowledge and learning may be adequate when the knowledge in question can be learned in practice—as in some workplaces. However, when the knowledge is a specialist subject in the curriculum such as physics or history, the relationship between knowledge and learning is more complex. The issue is not only how students pick up the tacit knowledge shared by subject specialists but how it can provide them with access to the explicit and more decontextualised forms of knowledge associated with subjects.

Focusing on participation as the key element in any learning can neglect the relationship between tacit and explicit knowledge and how this relationship can be developed to maximise the access of students to specialist knowledge communities. We know little about these processes. The reason, I suggest, is that we have tended to take for granted the process of codification of subject knowledge in the curriculum as

something undertaken unproblematically by subject specialists. What this neglects is that subject teachers like any other 'communities of specialists', use their past practice to codify their explicit subject knowledge according to specific purposes—for example, the selection of new generations of specialists.

In the case of the 16–19 curriculum, it is these processes of codification of subject knowledge that need to be questioned. For example, we need to ask whether the existing forms within which specialist subjects are codified are appropriate to the goals of a curriculum of the future [5]. Some would argue that a less insular approach more concerned with connections between subjects and the curriculum 'as a whole' is needed. Two further, and more specific questions arise from this analysis. First, giving priority in the process of codification of knowledge to the selection of future subject specialists may be in conflict with the goal of broadening access to specialist knowledge for those who do not intend to become subject specialists. Second, whereas some learning needs codifying sequentially into school-type subjects, other types of learning that are not tied to specific subjects need access to contexts such as workplaces where solutions to practical problems take priority. This implies the development of new processes of codification and new 'communities of practice' involving links between specialists in schools and workplaces.

In the past it made sense to associate classroom learning with the acquisition of subject knowledge and workplace learning as something taking place incidentally during activities engaged in for other purposes—Dewey's famous and much misunderstood dictum 'learning by doing'. However, the learning demands on both workplaces and schools are changing. Workplaces increasingly require employees to have knowledge that cannot be learned 'in practice' and schools are being expected to prepare their students not just to pass examinations but to be lifelong learners in contexts where there may not be teachers. This means that the old distinction between sites of learning, while not irrelevant—schools and workplaces remain different in their educational potential—is becoming obsolete; we need distinctions based on purposes rather than just on sites. A curriculum model is needed that does not treat the learning potential of school and work as separate but in relation to each other and a broader set of educational purposes. In this way lifelong learning could be a challenge to academic/vocational divisions—not at the level of qualification structure which has been at the centre of most recent debates, but in redefining learning processes and their links to content. This analysis has implications for both school and workplace learning. If successful learning at work depends on access to knowledge unlikely to be available in workplaces, workplace learning and work experience *on their own* can be no substitute for school learning. (Griffiths & Guile, 1999). It follows that policies promoting work experience either in isolation from the school curriculum or as an alternative for those reluctant to learn in school are doomed to failure. Likewise, if school students, whether they are on programmes designated academic or vocational, are to become lifelong learners they will need the experience of learning in contexts such as workplaces in which the knowledge they need is not part of that context. The 16–19 curriculum of the future must reflect these learning needs.

This takes the argument back to the issue of specialisation. The specialisation of learning into the syllabuses and subjects of the curriculum has had unquestionable benefits; it has widened access to knowledge in ways that would have been impossible without it. At the same time the subject-based curriculum represents knowledge that is decontextualised from experience in particular ways; it has divorced school knowledge from its applications, separated different knowledge areas from each other, led to the

undervaluing of learning in non-specialist contexts such as workplaces and obscured the importance of knowledge being situated in specific contexts if it is to become part of the experience of learners. The alternative is not to try to recontextualise all knowledge or to reverse this process of specialisation as some programmes for disaffected learners have attempted to do. What is needed to define a curriculum of the future is a new set of principles that relate the situated *and* codified aspects of knowledge and that I refer to as *connective specialisation*. A *Curriculum of the Future* will still emphasise subject learning but not as an end in itself. Connective specialisation stresses the links between subject learning, the experience of learners and the purpose of the curriculum as a whole. Unlike the present A level curriculum, which is based on collections of individual subjects, a *Curriculum of the Future* would start, as I began this article, with the broad question of purposes and the kind of society and citizens we seek in the future. These purposes would be the basis for balancing the priority given to subject knowledge with a number of learning goals not reflected in the existing curriculum; for example:

- relationships between learning in different subjects;
- relationships between subject knowledge and learning at work and vice versa; and
- the potential of subjects as conceptual tools for linking the experience of learners to their future as citizens and parents and to future changes in society.

Such a curriculum would treat school learning, learning at work and lifelong learning as related aspects of a learning society's goals. Subject specialists would exchange their traditional autonomy over their subjects for a greater involvement in the curriculum as a whole. Most fundamentally, a *Curriculum of the Future* would be distinguished from the *Curriculum of the Past* in not just applying to schools and colleges. It would express the learning goals of the society and how these might be expressed in learning in specialist contexts (schools and colleges) and non-specialist contexts (workplaces and a variety of community settings) and the links between them.

Conclusions

My argument in this article can be summarised by suggesting that a *Curriculum of the Future* will involve three sets of assumptions.

1. *It will make assumptions about values and a vision of the future.* Explicitly or implicitly any curriculum embodies a vision of the kind of society for which it is trying to prepare young people. If it is to be truly inclusive, a 16–19 Curriculum of the Future must be sceptical of special programmes for marginalised or disaffected groups; such programmes, whether vocational education, work experience or lifelong learning, are likely only to sustain the marginality of such groups. In its vision, a 16–19 Curriculum of the Future must address how a modern society creates, and therefore might overcome, the disaffection and inequalities in that age group—it must tackle the *risks* of its own making—in Giddens's terms.
2. *It will make assumptions about knowledge.* Any curriculum makes assumptions about what knowledge is of most worth. Sociology reminds us that there are no certainties about this knowledge—criteria for the worth of knowledge are in the public domain, not outside it. This is not relativism. It is, however, a reminder that it is our responsibility that access to powerful knowledge in our society is still restricted to the few. Sociology has called into question the traditional subject organisation of the curriculum that has been associated with that restriction. This does not imply a

curriculum without subjects, but rather a warning against any educational initiatives, such as some in the field of vocational education, that play down the importance of access to powerful knowledge.

3. *It will make assumptions about learning.* No curriculum can guarantee learning. It has to balance the need to codify knowledge (and therefore to decontextualise it) with the need to facilitate forms of participation within the school and beyond in order that knowledge can be recontextualised in the learning experiences of students.

Changes in society as a whole suggest that a *Curriculum of the Future* needs to give priority to what the curriculum of the past neglected—extending opportunities for participation in learning communities and strengthening the links between participation in school-based learning communities and in other contexts for learning. However, the new forms of participation that are developed must provide access to 'specialist knowledge communities'. Otherwise, participation will not facilitate the kind of learning that all young people will need in the future, whether this is at school or at work.

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NOTES

[1] This paper is a slightly revised text of a Professorial Lecture given at the Institute of Education, University of London on 4 February 1999 and first published by the Institute of Education in April 1999.

[2] For a more detailed account see Young & Spours (1998).

[3] For a discussion of the reform of vocational qualifications in this period see Spours (1993).

[4] For a more extensive discussion of the issue of specialisation in modern societies see chapter 15 of Sassoon (1987) and chapters 5 and 12 in Young (1998).

[5] For a discussion of this issue in relation to the reform of A levels see chapter 8 of Young (1998).

REFERENCES

APPLE, M. (1997) *Official Knowledge* (London, Routledge).

BANKS, O. (1954) *Parity and Prestige in English Secondary Education* (London, Routledge & Kegan Paul).

BECK, U. (1992) *Risk Society* (London, Sage).

BECK, U., GIDDENS, A. & LASH, S. (1994) *Reflexive Modernisation* (Cambridge, Polity Press).

BOURDIEU, P. & PASSERON, J-C. (1977) *Reproduction in Education, Society and Culture* (London, Sage).

DEPARTMENT FOR EDUCATION/DEPARTMENT FOR EMPLOYMENT (1991) *Education and Training for the 21st Century* (London, HMSO).

DEPARTMENT FOR EDUCATION AND EMPLOYMENT (DfEE) (1997) *Qualification for Success*; a consultation document (London, DfEE).

DEPARTMENT FOR EDUCATION AND EMPLOYMENT (DfEE) (1998) *The Learning Age: a renaissance for a new Britain* (London, DfEE).

ENGESTROM, Y. (1991) Non Scolae sed Vitae Discimus: towards overcoming the encapsulation of school learning, *Learning and Instruction*, 1.

ENGESTROM, Y. (1994) *Training for Change* (Geneva, International Labour Office).

FINEGOLD, D. & SOSKICE, D. (1988) The failure of training in Britain; analysis and prescription, *Oxford Review of Economic Policy*, 4, pp. 21–53.

FINEGOLD, D., KEEP, E., MILIBAND, D., RAFFE, D., SPOURS, K. & YOUNG, M. (1990) *A British Bacalaureate* (London, Institute for Public Policy Research).

GIBBONS, M., LIMOGES, C., NOWOTNY, H., SCHWARTZMAN, S., SCOTT, P. & TROW, M. (1994) *The New Production of Knowledge* (London, Sage).

GIDDENS, A. (1994) *Beyond Left and Right* (London, Polity Press).

GREEN, A. (forthcoming) The role of skill formation strategies, Post-16 Education Centre, University of London, Institute of Education.

GRIFFITHS, T. & GUILE, D. (1999) Learning and pedagogy in work-based contexts, in: P. MORTIMORE (Ed.) *Understanding Pedagogy and its Impact on Learning* (London, Sage).

HOWIESON, C., RAFFE, D., SPOURS, K. & YOUNG, M. (1997) Unifying academic and vocational learning: the state of the debate in England and Scotland, *Journal of Education and Work*, 10, pp. 5–35.

KEEP, E. (1998) Changes in the economy and the labour market: we are all knowledge workers now, in: *Work and Education*, Report of Post-16 Network Conference, Post-16 Education Centre, University of London, Institute of Education.

KUHN, T. S. (1962) *The Structure of Scientific Revolutions* (Chicago, IL, Chicago University Press).

LASH, S., SZERSZYNSKI, T. & WYNNE, B. (1996) *Risk, Environment and Modernity* (London, Sage).

LAVE, J. & WENGER, E. (1994) *Legitimate Peripheral Participation* (Cambridge, Cambridge University Press).

MURRAY, R. (1991) Life after Henry (Ford), in H. MACKAY, M. YOUNG & J. BEYNON (Eds) Understanding technology in education, pp. 145–157 (London, Falmer Press.

PIORE, M. & SABEL, C. (1984) *The Second Industrial Divide; possibilities for prosperity* (New York, Basic Books).

SASSOON, A. (1987) *Gramsci's Politics* (London, Heinemann).

SPOURS, K. (1993) The reform of qualifications within a divided system, in: W. RICHARDSON, J. WOOLHOUSE & D. FINEGOLD (Eds) *The Reform of Post-16 Education and Training in England and Wales* (Harlow, Longman).

WENGER, E. (1998) *Communities of Practice* (Cambridge, Cambridge University Press).

YOUNG, M. (Ed.) (1971) *Knowledge and Control: new directions for the sociology of education* (London, Collier Macmillan).

YOUNG, M. (1993) A curriculum for the 21st century: towards a new basis for overcoming academic and vocational divisions, *British Journal of Educational Studies*, XXXX1, 3, pp. 203–222.

YOUNG, M. (1994) A curriculum for the future? The case of post compulsory education in the UK, in: N. TAYLOR (Ed.) *Constructing Knowledge* (Capetown, Longmans).

YOUNG, M. (1998) *The Curriculum of the Future* (London, Falmer Press).

YOUNG, M. (1999) Reconstructing qualifications for further education, in: A. GREEN & N. LUCAS (Eds) *Further Education and Lifelong Learning: realigning the sector for the 21st century* (London, Institute of Education, Bedford Way Papers).

YOUNG. M. & SPOURS, K. (1998) 14–19 education: legacy, opportunities, and challenges, *Oxford Review of Education*, 24, pp. 83–98.

YOUNG, M., HOWIESON, C., RAFFE, D. & SPOURS, K. (1997) Unifying academic and vocational learning and the idea of a learning society, *Journal of Education Policy*, 12, pp. 527–537.