

# Enquiring Minds

## Context and rationale

### Introduction

The stated aims of Enquiring Minds are to create opportunities for learners to be independent, to take responsibility for their own learning, create their own knowledge and conduct their own research. It builds on the understanding that children have things to say, and that they deserve to be heard; that they have past experiences and existing knowledge and understandings upon which their education should be designed; and that the current model of mass education is unsuited for the current time.

Overarchingly, Enquiring Minds sets out to explore what a fully personalised curriculum would look like – one in which young learners are able to develop autonomy and independence, have the ability to work effectively with others, are resilient when faced with challenges, are able to celebrate success and deal with disappointment, and have a clear sense that what they do in school is meaningful and useful to them.

It is clear that there has been significant interest dating back many years into how schools and curricula can be changed to support children to act in these ways. The approach to developing the Enquiring Minds concept has drawn on existing intelligence from the theoretical, empirical and political realms.

This paper outlines some of the literature that has informed the early thinking of the project, and seeks to place it within some broader economic, cultural, theoretical and policy contexts.

### Historical antecedents

It is important to recognise that the idea behind Enquiring Minds is not new. Indeed, it may be useful to understand the project as having its antecedents in the 'child-centred' or progressive educational developments of the late 1960s and early 1970s. This is a tradition of education that reached its apotheosis in the 1970s but which has lost favour in the past 25 years. In *Re-Schooling Society* David Hartley (1997) analyses how educational changes reflect important shifts in economy and culture. He identifies the late 1960s and early 1970s as a time of optimism about the potential for child-centred education – an older ethic of austerity and restraint was challenged by notions of creativity and play, and this was to be reflected in educational thinking.

Three official reports mark the boundaries of this period. The Newsom Report (1963) entitled *Half our Future* addressed the concern that a significant proportion of the school population risked being marginalised or counted out by a lack of success at school, and that new ways of engaging these pupils needed to be developed. Reflecting the post-war mood of optimism and a belief in social egalitarianism, the report nominated schools as the places where these divisions could be addressed, and central to this was the curriculum. Accordingly the Schools Council was established to devise new curricula and new methods of assessment. The Plowden Report on primary education was published in 1967 and enshrined the importance of child-centred approaches. This two-volume design for the utopian primary school was grounded in the pedagogy of the libertarian nursery school initiated by Maria Montessori in the 1930s. Its syllabus

favoured the arts, teachers were to be encouraging and give pupils individual freedom, and its educational philosophy was based in romanticism, with a focus on creativity, expressivism, self-definition and autonomy. Finally, the Bullock Report, *A Language for Life* (1975) was a reaction to the realisation that educational attainment was closely linked to the types of language available to children and how these were received and validated in schools.

In relation to Enquiring Minds, these developments are important in that they reflected a period in which the school curriculum began to be understood 'holistically' and curriculum planners and teachers sought to ensure that school subjects were relevant and meaningful to all pupils. These ideas were influenced by developments in the philosophy and sociology of knowledge (see White 2004) which saw that the traditional subjects of the curriculum were arbitrary 'constructs'. Edwards and Kelly (1998) argue that the new approaches to the curriculum that developed in this period were part of the process in which the school curriculum was freeing itself from the 'shackles' of tradition and move into the 20th century. They state that the 'general climate of educational thinking was one in which the superior importance of the pupil to the content of the curriculum was beginning to be recognised'.

It should be clear that this focus on the importance of the pupils is central to Enquiring Minds. In an article entitled 'Will the curriculum caterpillar ever learn to fly?' Davies and Edwards (1999) argue that these developments were "imaginative responses to questions posed by the educational concerns and the socio-economic contexts at the time". It is worth stating the important features of these approaches, since they are in line with the ways in which Enquiring Minds is trying to work:

- They recognised the agency of children and their right to participate in society – to have a say in what and how they learn.
- They were seriously concerned with the knowledge created through educational activity. They accepted that knowledge is socially produced and reflects the values and interests of those who produce it. The skills of learning are valued because they allow the creation of knowledge that is of use for children themselves. Such knowledge is likely to be interdisciplinary.
- They drew upon critiques of schooling and curricula in order to break down arbitrary divisions between subjects, involve children in their learning, make links between schools and communities, and develop new ways of thinking about what it is to be an educated citizen.

It is of course a matter of record that these approaches to the curriculum lost favour during the 'Conservative restoration' of the 1980s and 1990s (Ball 1994). There has been a return to a highly classified subject curriculum based on quite traditional ideas of subject content, and a revolt against so-called 'trendy' child-centred teaching methods. This may be read as revolt against what Keefe (1986) called 'the wayward curriculum' which had its roots in the social sciences and which promoted socially egalitarian values. However, as we argue in subsequent sections, the discourse of child-centredness has returned with renewed vigour in recent years, albeit in a new guise.

## **New times**

There were always tensions with educational policy in the 1980s and 1990s. These were between those who argued for a 'back to basics' approach to education based on 'traditional' forms of curriculum, pedagogy and assessment,

and those who argued that the emerging 'Post-Fordist' economic arrangement would require new forms of education, based on individualised forms of learning, an emphasis on vocationalism, and new technologies (See Robins and Webster 1989 for an detailed analysis of these debates in a UK context). Though these tensions still exist, there has emerged a form of educational analysis that is concerned to demonstrate that new economic and social conditions require imaginative responses from educational systems. These are what might be called the educational 'new times'.

Thus, recent years have seen commentators on education particularly in Europe, the US and Australia questioning the fundamental principles upon which schools operate. Much of this criticism builds on the assumption that the 'West' (or advanced capitalist societies) is becoming increasingly led by the demands of a contemporary era variously characterised as a 'knowledge economy', 'information society', or 'digital age'. The emerging consensus is that the early 21st century period of digital technologies and global networks is clearly one in which what 'counts' as knowledge and information is in question (see UNESCO 2005). As a result, it is argued, new forms of pedagogy are required to equip children with the necessary skills and competencies to be able to thrive and live effective social, personal and working lives in the new global economy.

This type of educational thinking is based on the premise that there is a connection between economic change and educational change, though different commentators may have different ideas about the strength of this connection. All are concerned to stress that there is a potential mismatch between the developments in broader economy and the ability of schools to respond. One of the key arguments around adapting schools concerns preparing young people for entry into the labour market. The new knowledge economy, it is said, requires a distinctly different approach to the education of the future workforce. For example, in an article entitled 'New economy, new pedagogy?' Hartley (2004) provides an interesting account of how the UK government is simultaneously acknowledging these needs for industry while restricting pedagogy at the school level. He argues that towards the end of the 20th century, there was finally a recognition that the Fordist economy of assembly-line, manual and machine-based labour was in decline, and that a new post-Fordist economy of "'people-work' in the service sector [...] had expanded"; in fact it had expanded so much by the early 1990s that it was "employing 46% of the workforce" in Britain (83-84). In turn, Hartley suggests, such 'people-work' has brought with it recognition of the importance of 'social capital' amongst the workforce, namely the productive trustworthiness that can exist in the relations between people.

However, Fordist regimes of management based on cultures of compliance and efficiency aimed at keeping task cycles short and routine, which run against this grain of productive trustworthiness, have persisted. At the beginning of the 21st century, Hartley asserts, schools still rely on pedagogies that enculturate learners into compliance and into efficiency models that have roots in the factory floor. There is a clear need for more flexible forms of pedagogy that allow risk-taking and creativity. However, Hartley is doubtful about whether such new pedagogies will be developed in the short-run, since they are likely to be more expensive than traditional, standardised modes of pedagogy. This is despite the possibility that in the long-term more child-centred pedagogies may reap economic benefits.

A similar argument, about the need to adopt different models of teaching and learning in the light of economic transformation, is made by Phillip Brown and Hugh Lauder (2001) in their book *Capitalism and Social Progress*. According to Brown and Lauder, modern day capitalism is characterised by a desperate search to find solutions to the question of how nations can compete successfully in the

new global competition while simultaneously improving the quality of life for all their citizens. Their argument is based on the assumption that there has been a fundamental transformation in the operation of the capitalist market. Part of the answer to this question lies in changes in the nature of education.

For Brown and Lauder, the post-war 'golden era' of western capitalism was characterised by a situation of 'economic nationalism' in which nation-states operated within 'walled-economies' based on mass produced goods and services. This offered the prospect of decent family wages to low-skilled (generally male) workers. Under these economic arrangements, large national corporations expanded to meet the demand for new consumer durables, along with a large public sector which created vast armies of white-collar workers. These provided predictable and stable career ladders to the middle classes and their children. In terms of social structure, this was a world anchored by the nuclear family. Brown and Lauder note that this economic arrangement was underpinned by a political settlement between the state, employers and workers. Governments offered a commitment to economic growth and full employment in return for wage restraint and political acquiescence.

This 'golden' era has given way to a new period of economic and social instability. This took the form of a series of shocks. Thus, in the early 1970s the Oil crisis caused a rise in fuel prices which led to a fall in the rate of profit. This was in part the cause for a move away from walled economies to a highly integrated global market-place. The increased vulnerability to foreign competition meant it was unviable to build and rely upon systems of national prosperity. Large companies have thus shed their national roots and become global operators. The political settlement was shattered as governments sought to reduce the power of trade unions to defend conditions of workers and maintain profitability for firms. A period of corporate 'down-sizing' and a 'hollowing out' of the state has had concomitant social costs in the break down of older stable social structures.

According to Brown and Lauder, these changes pose major problems for nations in terms of maintaining their position in the global economy (through attracting investment and profitability) and at the same time securing social cohesion. They argue that the answer to this conundrum is new forms of 'collective intelligence':

"In an information-rich, knowledge-based society it is brains not brawn which will prove decisive in improving productivity and individual well-being. Hence the alternative to market individualism is collective intelligence."

Collective intelligence involves important changes in how we think about knowledge and learning. Specifically, it assumes that we are all capable rather than a few; intelligence is multiple rather than a matter of solving puzzles with only one right answer; our human qualities for imagination and emotional engagement are as important as our ability to become technical experts; our ability to imagine alternative futures and to solve open-ended problems, and our interpersonal skills, should all be included in our definition of intelligence in the future.

For Brown and Lauder:

"Collective intelligence involves a major change in the way we think about the relationship between the individual and society and consequently the way we organise our schools, companies, neighbourhoods, and government. This is because the pooling of intelligence, through the creation of social structures which enhance the capacity for intelligent action, offers the best prospect of prosperity, democracy and social harmony in the context of

post-industrial development. Therefore, if the 20th century has been dominated by the spirit of competition, the 21st century must begin in an attempt to create a spirit of co-operation."

Brown and Lauder identify three factors that point to the importance of collective intelligence for the 21st century:

1. **The wealth of nations will not depend on natural resources but on improvements in productivity and innovation through the application of applied knowledge.** They draw here upon Castells' (2000) notion of the informational economy. 'Value added' organisations will depend on the emotional intelligence of their employees in order to make gains. These employees will need to share the goal of making a quality product or service. Quality work will depend on being able to work in project teams, often of an interdisciplinary nature, which means that people need good interpersonal skills, to be team players and willing to take initiative.
2. **Life outside paid work requires new forms of intelligence and understanding.** For instance, personal relationships with family, friends etc need to be negotiated rather than conducted according to prescribed roles. There are a host of other changes that will require conscious decision-making, mutual understanding, and the skills and art of 'conversation' about how to live a productive and fulfilling life. These include: the breakdown of established patterns of family life, work, leisure; changed demographic patterns of child birth, marriage, and divorce; relationships between ethnic groups; growing scepticism about scientific knowledge and the ability of 'experts' to resolve ecological problems. All these require new forms of 'reflexivity'.
3. **Changes in the balance between paid and unpaid work.** In the past only a few needed 'intelligence' and most formal learning could be completed before the age of 18. But the informational economy which requires collective intelligence means that it is the learning of all that is important – individuals learning in formal and informal settings adds to the stock of collective intelligence.

Another influential example of this type of analysis is provided by the New London Group's 'A pedagogy of multiliteracies: designing social futures', originally published in 1996 but which formed the basis for a book-length analysis in 2000. The argument is that existing forms of education are increasingly challenged by the advent of post-Fordist, globalised, fast capitalism. The starting point for their discussion is that these changes are having (and will continue to have) significant implications for schooling. Such changes will require a reconsideration of 'educational aims'. In this respect, the New London Group states that:

"If it were possible to define generally the mission of education, it could be said that its fundamental purpose is to ensure that all students benefit from learning in ways that allow them to participate fully in public, community, and economic life."

Their argument is that what it means to participate in public, community and economic life is changing:

- **Working lives** – there have been important shifts in the nature of work as economies shift from manufacturing to services. The globalisation of economic life means that the idea of a 'job for life' has become less meaningful. Instead, people need to be prepared for working lives that will be more 'risky' and require flexibility and adaptability.

- **Public lives** – the role of the state and public space has altered. Increasingly, individuals and communities are encouraged to rely less on the state to provide goods and services and more to take responsibility for these things. This requires different models of citizenship. Increasingly young people are growing up in a multicultural society and this requires new skills of participating in public life.
- **Personal lives** – changes in economic and public spheres have had important impacts on how individuals live their lives. Changes in patterns of parenting and the family are accompanied by new forms of consumption and communication. Compared with a generation ago, what it means to grow up seems very different.

Echoing Marx and Engel's in *The Communist Manifesto*, the New London Group represents that capitalism is a destructive force, but also a creative one. In a situation where all that is solid melts in the air, the challenge is to find creative and imaginative responses to the new conditions. The writers are optimistic that these forces of change can be harnessed for progressive ends:

"In an economy of productive diversity, in civic spaces that value pluralism, and in the flourishing of interrelated, multilayered, complementary yet increasingly divergent lifeworlds, workers, citizens and community workers are ideally creative and responsible makers of meaning. We are, indeed, designers of our social futures. Of course, the necessary negotiation of differences will be difficult and often painful. The dialogue will encounter chasms of difference in values, grossly unjust inequalities and difficult but necessary border crossings... we will need all the skills required to negotiate these differences."

Stephen Kemmis uses Jurgen Habermas' distinction between 'systems' and 'lifeworlds' to illustrate similar concerns from an Australian perspective. He suggests that schools themselves are too focused on their outmoded political, legal and economic functions, and too unfocused on the cultural, social, personal and interpersonal needs of students. In this account, the systems function of schools are seen to operate instrumentally "through the definition of goals, the definition of criteria against which progress towards goals can be measured, the setting of targets for what will count as success [...], and the monitoring of progress towards goals to evaluate and improve system efficiency" (Kemmis 1998: 275). Lifeworlds, on the other hand, describe the dynamics of culture, social order and individual identity – the interaction of processes of cultural reproduction, social integration and socialisation.

But for Kemmis, following Habermas, late modern culture and its schools remain staunchly systems-oriented, as if "indifferent to the unique personalities and interests of the individuals" who inhabit them (280). The role of schooling is to manage the boundary disputes between these perspectives: to educate learners as participants in systems where they have individual goals, as well as in lifeworlds where they have interactive capabilities. Schools, then, should not perform a purely functional systems purpose, but at the same time they should not embrace the romance of entirely individualised perspectives: they need to operate along the boundaries between these, helping learners to make sense of the tensions between the economic, political and legal functioning of education and the need for cultural reproduction and social integration. It is in what Habermas and Kemmis describe as "communicative action" – that is, "learning as a form of action oriented toward mutual understanding and unforced consensus" (271) – that the possibility of such education takes place.

Kemmis argues that this balanced relationship has been threatened as a result of the extension of the functional rationality based in political-economic systems. An example of this is how educational relationships between teachers and learners are threatened as schooling becomes an increasingly extensive system of preparation for employment. Kemmis' paper offers an account of different orientations to learning that co-exist in late modernity. These are summarised in the following table:

| <b>Orientation</b><br><b>Key notion</b><br><b>Key figure</b> | <b>View of knowledge</b>  | <b>View of learning</b>  | <b>Mode of representing the social world in curricula</b>  | <b>Expectations about what learners will learn about the social world</b> |
|--|---|--|--|---|
| Pre-modern<br>Repetition<br>The cycle                        | Established patterns to be reproduced without change  | Inductions into pre-determined forms; mastery as the repetition of these forms   | Foundationalist, essentialist: the word as a copy (or encoding) of the world   | Enculturation   |
| Modern<br>Development, expansion, extension<br>The spiral    | Evolving; going 'deeper into' or 'beyond' surface appearances   | Existing forms of knowledge as springboards for development; 'going beyond the information given'; discovery and inquiry learning  | Scientific representation, together with scientific attitude to the moral-legal and aesthetic-expressive domains                           | Enlightenment   |
| Late modern<br>Problematization, critique<br>Recursion       | Reflexively constructed in relation to cultural, social-political and material conditions                                   | Critique of existing knowledge as a base for constructing new ways of seeing, doing, being; communicative actions as a fragile basis for securing collective self-consciousness and organisation | Critical perspectives on (critical distance from) existing patterns of language/discourses, social practices, forms of social organisation | Emancipation  |
| Post modern<br>Fragmentary narratives<br>Deconstruction      | Reflexively constructed in relation to cultural, social-political, material and socio-biological standpoints and identities | Production of fragmentary narratives justified in relation to aesthetic-expressive criteria of identity-groups rather than universal theoretical-scientific or moral-legal criteria              | Narrative, aesthetic-expressive  | Celebration and production of difference                                  |

Kemmis makes it clear that each of these learning orientations has a place in contemporary education systems. He rejects the idea that "we have entered an entirely new era of learning – an era in which old expectations, aspirations and hopes must be proclaimed dead, and from whose ashes spring new global expectations, aspirations and hopes for learning, which will produce new kinds of individuals, new societies and new cultures". Kemmis' scheme is useful because it helps us to analyse how particular orientations are built into different curricula in actual schools. For example, premodern orientations might be prevalent in early years schooling or in some fundamentalist forms of religious schooling. It might be interesting to speculate on the extent to which representations of the economy

in contemporary curricula also suggest a premodern orientation to the extent that they suggest to young people that they must fit into pre-existing structures. On the other hand, late modern and postmodern orientations appear in references to the potential of new communications and information technologies.

In summary, these accounts are illustrative treatments of an increasingly common theme in the educational literature of the need to adapt education to meet economic change. These accounts call for schools to abandon pedagogies rooted in the needs of efficiency-oriented 19th century factories, and to attend to the development of strategies which harness children's existing knowledge, skills and interests. We, however, are slightly cautious of the rhetoric surrounding emerging economies and the development of alternative pedagogies. While we may agree that schools often risk being left behind by new economic and social opportunities, and that they sometimes do not address the needs of the future workforce, our reservations concern the extent to which young people themselves experience these new economies at all. In their home and leisure lives, many young people are not encultured into new economies; they grow up aspiring to low skilled labour, simply because they have seen their parents and relatives or older peers do likewise. We recognise, then, that simply assuming that young people are already equipped for new economies is misleading, and likewise that assuming young people see for themselves a place within such economies is equally misleading. Instead, pedagogies operating from the principle of emergent economic imperatives may tend to exclude a significant population of students.

There is evidence that these types of educational analyses are informing policy debates in the UK and elsewhere. In particular, since the election of a Labour government in 1997, there has been much talk of the emergence of a new global economy that will require different kinds of individuals able to cope with the demands of the new economy. The so-called knowledge economy calls for new educative practices appropriate for preparing children to participate as informed citizens. Buckingham and Jones (2004), in a review of educational policy under New Labour, summarise the emerging model for economic success:

"Contemporary capitalism is in important ways a 'knowledge economy'. Knowledge is both a commodity in itself, and the means by which business seeks to understand the complexity of a world shaped by what seems to be an infinity of transactions. The accelerating accumulation of information necessitates continuous adjustment and accommodation, via the absorption of existing knowledge and the creation of new knowledge [...] As alertly as any postmodernist, business now views the world in which it operates as 'complex and ambiguous'. Survival depends upon rapid adaptation: looser and more agile organisational forms must, it is argued, replace centralised hierarchies now too cumbersome in their processing of information to respond to the speed of change." (Buckingham and Jones 2001: 4)

This description of the 'knowledge economy' identifies the absolute centrality of complexity, ambiguity and adaptation in our dealings with information. It highlights how far removed many businesses and organisations now are from the old-fashioned view of information as a static body to be anatomised or autopsied, and how much closer they are coming to the realisation that information is always in transaction, and hence always being adapted to form new examples of knowledge. According to this discourse, the authors argue, firms require workers who are able to adapt to new knowledge, and therefore, organisations within these economies always need a workforce able to learn how to adapt to do new things.

According to Manuel Castells (2000) the logic of the new economy emerging from the use of new technology uses information as its raw material; through the generation, processing and transmission of information that are its basic resources, new modes of power are developing that do not reside in capitalist firms or the state but in diffused codes of information. Groups that are not folded into the networked logic of the knowledge economy are thus in danger of exclusion from the new sources of power in the world. Interestingly, Buckingham and Jones as well as Hartley all identify that while the DfES and Ofsted continue to maintain the pedagogical status quo which teaches children that there is a body of information whose anatomy they need to learn, the majority of other government departments for whom education is a prime concern are clamouring for schools to attend to the very real needs of emerging industries and businesses in these new knowledge economies, lest children too are prematurely excluded from participation in them.

Tom Bentley (2001), for example, suggests that a global information society, as he describes it, underpins a current shift towards a 'learning society' quite distinct from current schooling models. The reasons for this he sees as cultural (the more educated a society becomes, the more it demands learning), economic (the more that knowledge and skills become commodities, the demand for qualifications rises), and technological (new communications infrastructure enables new ways of delivering learning services).

What these arguments suggest is that there is a need to reconceptualise what we count as knowledge. From an economic and labour market context, it is likely that individuals will need to develop skills in combining and managing information, and in creating new intellectual property; from a social and cultural perspective, it is likely that individuals will need to be able to reflect upon, collaborate and develop solutions to the rapid changes in the world around them. These different challenges suggest a shift away from a model of education as premised upon the acquisition of a pre-determined body of knowledge, towards one which views learners as active researchers and creators of knowledge, able to harness the tools around them to access, model, evaluate and analyse information, explore the boundaries of existing knowledge domains, and to collaborate, share and communicate in the creation of new knowledge. However, as we suggest later in this document, realising these changes in schools that have been designed for other purposes is no easy task.

## **Children's cultures and schooling**

The types of accounts we have discussed in the previous section point to the 'seismic' shifts that are occurring at the level of economy and society. They suggest that as society changes, education systems and schools will need to develop new ways of organising teaching and learning. One important element of these changes is the changing nature of childhood. It is stressed that the new era of globalisation means that what it means to be a child is different (see Prout 2004).

One of the central tenets of Enquiring Minds is that children bring to the educational experience their own interests, knowledge and expertise. Another way of putting this is that children are active agents in social life; they construct meaning out of their diverse experiences. Though this may sound obvious, it is important to realise that this is not the view on which much schooling is based. Instead, what Paulo Friere (1972) in *The Pedagogy of the Oppressed* called the 'banking model' of learning is still commonly found in schools. In this approach,

students are regarded as 'empty vessels' into which the teacher makes deposits of knowledge and information. This view of learning has become increasingly untenable in a context where children are (in theory at least) seen as having control and agency over their own lives.

It is important to put this changed perception of children in context. In the post-war period, there was a re-evaluation of the experiences of 'ordinary' people. In cultural and educational terms, this was expressed in the publication of Raymond Williams's (1958) *Culture and Society* and Richard Hoggart's (1957) *The Uses of Literacy*. Both of these books stressed the value of the informal cultures of working-class people. They were written at a time when many of the aspects of social and cultural life were beginning to break down in the face of the development of a mass consumer society and the rise of the new communications media associated with television and advertising. Though writers like Williams and Hoggart were ambivalent about these developments, they were inclined to stress the (Gramscian) 'good sense' of ordinary people. Their work can be seen as the founding texts of the interdisciplinary field of cultural studies. Though this is a diverse and complicated area of study, a central feature of cultural studies has been its willingness to recognise and work with the 'grain' of everyday life. In Britain, cultural studies was most closely associated with Birmingham Centre for Contemporary Cultural Studies, which produced a whole series of studies of 'youth cultures'. The main theme of this work was that youth cultures operated in ways that resisted the dominant ideologies found in mainstream society in what they characterised as 'rituals of resistance'. It is important to remember that this work developed in the specific context of the crisis of social democracy in the 1970s, and that through the 1980s and into the 1990s cultural studies came to engage with other developments in the cultural sphere, such as feminism, ethnicity and, more latterly, new technologies.

Education (or perhaps schooling) has always had an uneasy relationship with this work. In English teaching for instance, the work of Williams and Hoggart was important in supporting the idea that children's own language and experience should be valued, and that the products of media and popular culture should form the raw material for teaching and learning. An example is Hall and Whannel's *The Popular Arts* published in 1964 which sought to help teachers engage with the products of the media. Other contributions stressed the ways in which students resisted the official cultures of the school (eg Paul Willis' (1977) *Learning to Labour*, Paul Corrigan's (1979) *Schooling the Smash Street Kids*). Though this is a complex story, it is worth noting that in the 1970s and 1980s some schools sought to engage with and work alongside the cultures of young people in classrooms. Jones (2003) argues that this work, which sought to recognise and value young people's experience, had some influence on curriculum content and pedagogy in the decentralised context of schooling pre-1988. However, from the late 1980s and through the 1990s the connections between schooling and popular culture were effectively severed. As Buckingham and Jones (2001) argue:

"Between 1988 – when the Education Reform Act introduced the National Curriculum – and 1997, the trajectories of education and cultural practice sharply diverged. In curricular terms, state schooling in England was organised around: strong centralised control of provision, through national curricular legislation; opposition to local diversity, and in particular to any strong response to ethnic or class-based subcultures; a defence of tradition against innovation and nation against cosmopolis; an emphasis on print-centred culture, and a rejection of new media cultures. Outside the school, the principles of cultural organisation were different: new forms of communications technology proliferated; the regulated duopoly in television was brought to an end by deregulation and channel multiplication; the

audience for mass media fragmented; and cultural hybridity became – at least in some cultural sectors – a norm.”

Buckingham and Jones identify the tensions in the current Government’s educational and cultural policies. Like David Hartley, they too recognise the ambivalent messages being communicated by the various departments. On the one hand, they argue, educational policy continues to maintain strong centralised control of provision, concentrates on the ‘basics’ of numeracy and literacy, and disparages popular and media culture as embodiments of ‘dumbing down’. On the other hand, however, they identify how the Department for Media, Culture and Sport has regularly extolled the importance of cultural activity – both for strengthening the UK’s economic capital in the so-called ‘creative industries’ such as TV, internet and software, and for strengthening social cohesion between diverse and hybrid cultural groups – and how the Arts Council and Regional Arts Associations are placing greater emphasis on access to cultural and creative activity for previously excluded groups.

We have spent some time discussing this work within cultural studies because it provides the broader context in which the more recent work on children’s culture has developed. The lesson to be learned from this work is the need to take seriously the material (that is, economic and social) contexts in which children and young people construct their ‘maps of meaning’. As the previous paragraph noted, there is a renewed emphasis within educational policy on culture and creativity (as evidenced by the NACCCE (1999) report *All Our Futures*), and Enquiring Minds seeks to enable schools to engage with the informal cultures of children which, it is argued, are increasingly shaped by media and technology.

However, there seems to be a different inflection in this work from the earlier work on ‘youth cultures’. This is an expression of what has come to be called the ‘New sociology of childhood’. The New sociology of childhood is an engaged and committed approach to studying the worlds of children and emphasising children’s rights, needs and interests. This approach, associated with James, Jenks and Prout (1998) is based on some key ideas:

- First, and following the childhood historian Phillipe Aries, childhood is a social construction, that is, the ways in which we think about children accord to sets of agreements amongst different (usually adult) social groups, and “To describe childhood as a social construction is to suspend belief in or a willing reception of its taken-for-granted meanings”.
- Second, children occupy and conduct themselves in worlds that are full of meaning for them, but about which adults are, partially, ignorant. These are children’s ‘childhoods’. This has led to an important emphasis on listening to ‘children’s voices’.
- Third, children are a ‘minority group’. By using this phrase James et al are asserting that politically – as a social group – children are disadvantaged and lack power and that the new sociology of childhood is a theory of advocacy. It is dedicated to ‘children’s interests and purposes: a sociology for children rather than of children’. This is closely tied to a children’s rights agenda.

An understanding of the context of the new sociology of childhood helps us to better understand the debates about children’s cultures and lives. This involves recognising the diverse cultural domains in which children operate outside of school. This is more complex than simply assuming that you have ‘PlayStation kids’, ‘Barbie doll kids’, ‘indie music kids’ and so on. A 2004 report by the Social Issues Research Council identified 10 main ‘tribes’ to which UK young people affiliate themselves: geeks/academics, gangstas, Goths, moshers, townies,

scallies, skaters, sporties and trendies. The report suggests that teenagers affiliate themselves with these so-called 'tribes' in order to develop their own identities – both by fitting in with immediate peers and by disassociating themselves with other group identities: the idea that the development of a personal identity relies on a social identity. At least in part, then, teenage identities are bound up with mass media fashion trends and with consumerism. Issues to do with lifestyle choices and allegiances among the young are more complex than simply assuming that children's interests can be identified individually according to age groups.

There is a danger that the 'new sociology of childhood', by stressing the idea of childhood as a social construction, risks giving the impression that there are no limits to childhood. In his recent book *The Future of Childhood*, Alan Prout (2004) seeks to go beyond this position by stressing the importance of the relationship between the 'natural' and the 'social'. He develops Gilles Deleuze and Felix Guattari's notion of 'assemblages'. According to Deleuze and Guattari, the world is seen as a set of assemblages constituted by heterogeneous biological, technological and social elements. Accordingly, humans can be seen as combinations of the body in connection with the non-human world, such as language and technology, and with social worlds. Prout illustrates this in terms of childhood by suggesting that:

"Current efforts to introduce curfews on children in the UK are seen as the state promoting the 'parents-child-house' assemblage over the 'child-group-street' assemblage [...] The ways in which the contemporary media are pluralising socialisation can be seen as a clash between the 'classroom-teacher-child' assemblage and a 'children-television-marketplace' one and the UN Convention on the Rights of the Child can be seen as an attempt to put together a new assemblage around children that protects children without claiming complete ownership of them." (116)

The idea of assemblages appreciates that childhood is constructed in multiple complex ways, both by children acting themselves in particular social and cultural spaces with particular tools and technologies, and by adult groups who wish to assemble them as something distinctly different. It acknowledges that "what it means to be a child cannot be essentialised into some unchanging, stable entity" (121). Essentially, this view sees the trajectories of childhood as pluralist "assemblages of culture and nature, of society and technology, and of discourse and materiality" – combinations of the biological, social and technological that are "complex, emergent and open to contingency," but "already networked together" (141). The Enquiring Minds approach, somewhat similar to that proposed by the UN Convention, might be seen as destabilising the 'classroom-teacher-child' assemblage of fixed timetables, teacherly authority, and child dependence; instead it promotes an assemblage of the child-learner in a less rigidly defined combination of environments and expertise, and appreciates the diversity of assemblages of childhood that exist outside of school in cultural and leisure domains.

## **Children's cultures and digital technologies**

An important development in our understanding of children's lives is that of digital culture, which has led to debate about how 'new' technologies are affecting what it means to be a child (Prout devotes a chapter to this topic). The entrance of media technologies into childhood cultures has led to significant coverage both in the popular and academic press. Buckingham (2003) notes that there are two popular conceptions of the relationship between media and children – one which

sees the traditional moral values of childhood being eroded by access to media such as television and the internet and which seeks to defend children from adult realms of sex and violence, and the other which sees media as a liberatory force and assumes that children are hungry for knowledge and wise about the uses of technology (for example, see Carrington's (2005) discussion of the moral panic over children's use of texting in schools) Both, according to Buckingham, are highly generalised views of both childhood and of media technology:

"We cannot talk about children as a homogeneous category: what childhood means, and how it is experienced, obviously depends on other social factors, such as gender, 'race' or ethnicity, social class, geographical location, and so on." (21)

Other commentators, too, have urged for a cautious approach to the homogenisation of children and new technology. Facer and Furlong (2001) warn against the "myth of the cyberkid", and research by Sefton-Green and Buckingham (1998) has revealed that children's uses of new technology are more prosaic than has often been assumed: access to computers, they argue, does not automatically lead children into creative acts of cultural production. In Bill Osgerby's (2004) comprehensive survey of youth media over the last half-century, it is cautiously agreed that:

"In *some* respects [...] the rise of new media and communications technology may have profoundly altered *some* young people's perceptions of the world, redefining their experience of space and time and allowing distant events, places and people to enter more often into their everyday consciousness." (215, original emphases)

Nevertheless, Osgerby argues that empirical research has consistently revealed mismatches between popular perception and levels of actual innovation with new media by young people. He also concludes that new technologies supplement, rather than replace, old media forms, and that instead of heralding a momentous shift into an era of innovative social practices and cultural identities, new media has been integrated within existing cultural contexts and relationships (see Bolter and Grusin (2001) on 're-mediation').

In the UK, the ongoing UK Kids Go Online project (Livingstone and Bober 2005) has surveyed the uses of the internet of over 1,500 young people aged 9-19 along with over 900 of their parents. It has found that 77% of people aged 9-19 have accessed the internet at home and 92% at school. However, 88% of middle class young people and only 61% of working class young people have accessed it at home, with 23% having never used it at home, pointing to sizeable socio-economic differences. It also points out that this is not an issue purely to do with access, but to the quality of use of the internet: middle class children are much more likely to experience the internet as a rich and diverse place whereas working class children, if they use it, are more likely to find it a narrow and unengaging, if occasionally useful resource. The report's qualitative findings also paint an interesting picture of how young people view the internet – in that some young people don't find it useful, and others don't trust it: "It's like you don't know who's doing what, whose website it is, who wants what, who wants you to learn what. So you don't know who's put what information there" (Faruq, aged 15: 14). In one of the report's conclusions, the authors point out that many young people treat the internet as a ready-made source of information and entertainment – and not as a space for participation, cultural production or critical engagement. The authors also point out difficulties in internet usage for young people arising out of the views of their parents towards it. The totalising view of an 'internet generation', then, is misguided, although it is clear that some young

people are experiencing communicative practices and transactions with information and knowledge that were not available to older generations – practices and transactions which it seems may become increasingly common, or at least more diverse, as the internet's reach grows.

This type of data is useful in putting into context some of the more extravagant or 'boosterist' claims about children's uses of technology. Much of this comes from journalistic type accounts. For example, Steven Johnson (2005) enthusiastically celebrates the complexity of popular and mass culture media forms in his book *Everything Bad is Good for You*, suggesting that media forms such as television and computer games are cognitively challenging rather than 'dumbed down'. Others support similar views with empirical research. In the essays collected by Ilana Snyder (2002) in *Silicon Literacies*, computer games, the internet, online texts and hypertext are all considered as aspects of a 'new communicative order':

"Now, for the first time in history, the written, oral and audiovisual modalities of communication are integrated [...] In an electronically mediated world [...] the different modalities are combined in complex ways to create meaning. People have to learn to make sense of the iconic systems evident in computer displays – with all the combinations of signs, symbols, pictures, words and sounds. Language is no longer just grammar, lexicon and semantics: language now comprises a wider range of semiotic systems that cut across reading, writing, viewing and speaking." (Snyder 2002: 3)

According to Snyder, texts on a computer are functionally different, employing different meaning conventions.

For many commentators, the fact that young people are engaged in these complex activities outside of school has significant and challenging ramifications for the organisation of schooling. Nick Barham's (2004) enthusiastic zeal for new technology and its implications for young people's lives leads him to suggest that "Kids are certainly not too stupid for school":

"Perhaps school is too stupid for them. Too stupid, too slow, too uncolourful, too mono for a bunch of kids for whom speed, excitement, words, pictures, sound and film are all parts of acquiring and passing on information, all ways of telling stories [...] The form, content and method of knowledge delivery within schools is out of sync with the way that people learn elsewhere, with what they value, with what counts in the world." (234)

Some of this literature about children's use of technology suffers from the same type of determinism as found in much of the literature of educational change discussed in the first section of this report. The narrative goes something like this: schools are modelled on the industrial model of mass production. They assume that children are basically the same and that the job of teachers is to fill them with inert bodies of knowledge and information that mean very little to children and which they will not need. Children on the other hand increasingly live in a multimodal world of media technology which forms the backdrop to their experience. More and more, teachers are finding that they are "aliens in the classroom" (Bigum and Green 1993). This means that more and more children are likely to reject the formal offer of the school and that schools need to find ways to change how they organise learning. What this account lacks, of course, is a proper recognition of the complexities of schooling and the fact that schools perform a variety of functions in contemporary societies. Without such an understanding, attempts to reconcile the school with children's cultures are likely to fail.

A more nuanced reading of this literature suggests the need for educators to attend to the disparate contexts within which children grow up. It calls attention to the diversity of youth cultures which are necessarily affected by gender, social class, ethnicity and so on. It suggests that we need to examine specific examples of children's use of digital media rather than rely on broad generalisations about children's activities, interests, and expectations. Nevertheless, it is clear that new technology does offer opportunities for rich participation in cultural activity, and that these opportunities for participation have a part to play in the Enquiring Minds approach to pedagogy and learning.

Perhaps the best option is to adopt an open mind and seek to engage with the pedagogical issues raised by children's cultures. In this respect David Buckingham (2003) identifies how children's intense levels of concentration and energy when engaging with playground pursuits such as Pokemon is quite at odds with the "deadening influence of mechanical teaching and testing that currently prevails in many classrooms" (33). Buckingham is perhaps the most pragmatic of commentators on the issue of media pedagogy, as represented by his paper with Julian Sefton-Green on the Pokemon phenomenon. The paper argues that there is a tendency to set up an opposition between the power of popular cultural texts to structure children's experiences and the agency of children to make meaning of such texts in their own way. Thus, in the first instance, parents might lament the way in which children's needs and desires are exploited by commercial companies, and schools may seek to ban them from classrooms and playgrounds. On the other hand, there are those who seek to celebrate the fact that children are being creative in their play and making their own meanings out of the game, forging new forms of sociability. Buckingham and Sefton-Green suggest that it is best to understand these issues through a focus on pedagogy or an attention to "the dynamic relationships between 'teaching' and 'learning' – or between texts and their reading and use – that does not simply invest power in one at the expense of the other" (p396).

## **Policy and curriculum development context**

Recent calls from the research community to address the mismatch of education and the current social, economic and cultural needs of children have not been ignored in political realms, and there has been much recent support for alternative curriculum arrangements.

In the UK, the current policy phrase is 'personalisation'. Personalisation is enshrined in the DfES 5 Year Strategy, which calls for "the system to fit the individual not the individual having to fit the system." It adds that "the most effective teaching at school [...] builds a detailed picture of what each child already knows, and how they learn, to help them go further" (DfES 2004: 4). In the follow-up DfES white paper, some personalised learning goals are suggested, although these make more of the opportunities available to students through extended school hours and increased subject choice (DfES 2005).

A recent report by Futurelab and Demos (Green et al 2005) suggests that this does not go far enough, and proposes a Learner's Charter which describes learners' entitlements in personalised learning environments, namely entitlement to choices, to skills and knowledge, to appropriate learning environments, and to feedback. It outlines these as follows:

## **1. Choices**

- To be considered as an individual with wide-reaching potential irrespective of age, gender, disability, ethnicity or socio-economic status.
- To take joint responsibility for and be seen as an active agent in determining my own learning priorities.
- To understand and critically engage with the choices open to me in the education process.
- To understand the potential implications of these choices personally, socially and economically.
- To develop the personal and social skills and attributes necessary to make these choices and to engage with the people and resources of the education process.

## **2. Skills and knowledge**

- To be supported to co-design my own curriculum and learning goals.
- To draw upon and make connections between the expertise and competencies I develop across all areas of my life.
- To develop my expertise and understanding in knowledge domains that are of personal significance to me.
- To be supported to take risks and develop understanding in unfamiliar knowledge domains.
- To have access to learning which will prepare me well as a member of the adult population.

## **3. Appropriate learning environments**

- To have access to different teaching and learning approaches and resources that meet my needs.
- To have access to people who are able to extend and develop my understanding in my chosen areas.
- To have access to learning environments and resources that enable me to develop my understanding and experience in authentic and appropriate contexts.

## **4. Feedback**

- To use diverse assessment tools to enable me to reflect upon and develop my own learning at times and in sites appropriate for me and in ways which inform decisions about my future learning.
- To have access to a diverse range of assessment mechanisms and media that are appropriate to the activity I am participating in.
- To achieve recognition for learning irrespective of the context of my learning (in home, in school, in workplace, in community).
- To achieve recognition for learning that enables me to progress within the wider community.
- To participate in assessment activities that provide feedback to the education system and are used to improve the learning environments in which I learn. (9)

These suggestions are broadly shared by the Association of Teachers and Lecturers in the UK, whose report on Key Stage 3 (Carnell 2004) suggests that "the best teachers are analysing how the kids are learning and the next best teachers are those who are analysing their teaching" (76). They argue that learning cannot be shoe-horned into bite-sized activities that fit short timetabled

periods, and that learners need to be nurtured to be active and questioning rather than passive and conforming, with peers as well as teachers seen as sources of knowledge. They also identify, importantly, five characteristics of schooling that children want, namely, less focus on individual learning in the classroom; learning to be an enjoyable experience in a supportive environment of trusting relationships between peers and teachers; to be trusted and given responsibility for their learning; less stress and fewer pointless tests; and to be listened to and have their views acted upon (77).

Somewhat similarly, the OECD-CERI Scenarios group, in their vision of possible 21st century schooling, suggests that the emphasis in schools needs to move from simply a 'know what' model of factual knowledge and recall to one which takes account of children's need to 'know why', 'know how', and 'know who' too. It radically questions the applicability of knowledge recall education to the demands of 21st century living.

Similar concerns are shared across the Atlantic. A recent report issued by the American Diploma Project, concludes:

"The [high school] diploma has lost its value because what it takes to earn one is disconnected from what it takes for graduates to compete successfully beyond high school — either in the classroom or in the workplace. Re-establishing the value of the diploma will require the creation of an inextricable link between high school exit expectations and the intellectual challenges that graduates invariably will face in credit-bearing college courses or in high-performance, high-growth jobs." (2004 unpaginated)

There is growing consensus across business and higher education sectors that mastery of core content (eg language arts, maths, science, social studies), while a necessary facet of education, is no longer sufficient preparation for students. The US Partnership for 21st Century Skills states that:

"To cope with the demands of the 21st century, people need to know more than core subjects. They need to know how to use their knowledge and skills — by thinking critically, applying knowledge to new situations, analysing information, comprehending new ideas, communicating, collaborating, solving problems, making decisions." (2003, p9)

In Australia, the development of the New Basics curriculum illustrates tandem concerns. Its stated aims are about "dealing with new student identities, new economies and workplaces, new technologies, diverse communities and complex cultures". The initiative, taken up across the state of Queensland, aims to address the four key themes of personal identity and social future, literacy and communication, citizenship and community, and environments and technologies. Broadly developed on the back of the New London Group's (1996) multiliteracies and design of social futures manifesto, the New Basics was trialled according to 25 different research questions, with final trials in 2003 indicating some significant achievements.

Increasingly, then, policymakers are realizing that the applicability of education to the 21st century is going to require a reorganisation of curricula and pedagogy. Two significant initiatives in the UK are relevant to Enquiring Minds: the Effective Lifelong Learning Inventory (ELLI) and the RSA Opening Minds Initiative.

ELLI takes the form of a self-assessment questionnaire that students complete in order to develop a profile of their dispositions to learning. Developed in

partnership between the University of Bristol and the Lifelong Learning Foundation, ELLI is organised around the concept of 'Learning Power', which is defined as:

"A complex mix of dispositions, lived experiences, social relations, values, attitudes and beliefs that coalesce to shape the nature of an individual's engagement with any given learning opportunity." (see ELLI online)

Learning Power comprises of seven dimensions, namely changing and learning, meaning making, curiosity, creativity, learning relationships, strategic awareness and resilience. A large-scale research study with learners from the early years through to adulthood found that as people get older they tend to become weaker on all of these dimensions, and thus more dependent and fragile as learners. The ELLI questionnaire, then, is intended to illustrate both to teachers and learners where individual students' strengths and weaknesses are, and to provide composite profiles of entire classes. Follow-up questionnaires can be completed to help measure the effectiveness of subsequent interventions.

What ELLI allows teachers and students to identify is how individuals and groups have quite different sets of dispositions to learning. So, for example, a class of students who achieve highly in exams may actually be incredibly dependent on their teacher for direction with very little resilience if they are unable to achieve highly in a given task. They may not be particularly creative, or enjoy good relationships with other learners, but instead will rely on teacher instruction. On the other hand, a student may have the attitude that cleverness is something that is inherited rather than something that can be nurtured through curiosity and resilience and through relationships with others. The ELLI project team regard strategic awareness as the over-arching or meta-skill to be fostered by students – the disposition to being aware of how one goes about the complex business of learning, how one manages that process and monitors it oneself. It is broadly conceived as a means of allowing teachers and students to formulate alternative approaches to teaching and learning within the national curriculum and national strategies.

The Royal Society of Art, Manufacture and Commerce (RSA) Opening Minds initiative operates from a similar philosophy of promoting learners to understand how it is they can go about learning so that they are able to become creative and resilient throughout their lives. However, Opening Minds is conceived as an alternative, competence-led curriculum. It suggests five categories of competence, namely competences for learning, competences for citizenship, competences for relating to people, competences for managing situations, and competences for managing information (see the RSA Opening Minds website). The initiative's architects maintain that while the national curriculum holds that these competences will emerge out of subject-based development, Opening Minds instead proposes that subject knowledge should be used to support and not lead their development. It regards the aims of the National Curriculum as mismatched with the imperatives for education in the 21st century, and aims to foster skills that will equip people for both life and work after school.

Opening Minds approaches to education, then, are often cross-curricular and organised into long periods of intensive work rather than discreet subject-specific timetabled lessons. The focus is primarily on developing the competences through carefully managed intersections with subject content. The onus is on teachers, usually working in teams of six to eight, to develop their own bespoke curriculum based around the competences and capitalising on the opportunities to blend subject domains through thematic project work. More child-centred than traditional approaches, too, it seeks to provide pupils with more autonomy to

decide how they tackle a problem, team up with peers, or present their findings. A key feature of an Opening Minds project is that the competences are advertised to students explicitly as the learning objectives, so that it is their learning disposition that is foregrounded rather than chunks of content. According to students who have followed the competences curriculum:

"I like Opening Minds because it's loads of subjects in one and not like other subjects."

"I like the fact that we share a lot of stuff with each other, and like working with everyone."

It is clear that both ELLI and Opening Minds have much to offer Enquiring Minds. It is envisaged that the procedures and strategies advised by these initiatives could, indeed, form the basis for the incremental development of Enquiring Minds within the school setting. For example, students might start a new term by completing the ELLI questionnaire, and proceed into some modules of thematic study based on the Opening Minds model of off-timetable, collapsed-curriculum teaching, as preparation and scaffolding for self-initiated work in the framework of Enquiring Minds. Certainly, the three initiatives might be seen as complementary, with the potential to operate alongside each other as a set of approaches to developing more fully personalised teaching and learning. Enquiring Minds, however, differs in that it proposes that students take responsibility for determining the focus of their own research, methods of exploration and data collection, and for the creation of new knowledge and content.

In order to illustrate how Enquiring Minds builds upon and then extends the models offered by ELLI and Opening Minds, the table below shows an example of the characteristics of each approach, where they overlap and complement each other, and where the differences in approach lie. This is necessarily a gross illustration; we do not envisage that this set of competences, elements and self-assessment would need to occur in the linear order the table suggests. It should also be noted that the competences as they are described in all three initiatives, and as they appear in this table, are the desired outcomes of students' progression through school and curricula; therefore, we should not expect to see all of these fully-developed early on in any process of school change. Rather, for example, we might see an entire cycle of activities engineered to meet students' need to become more resilient by engaging them in ongoing research work.

The table attempts to make clear that there would be a fairly strong degree of individual self-assessment within subject domains at the beginning of any school transformation. As a school orients itself towards a personalised approach, it might gradually move towards more off-timetable arrangements with work across the curriculum organised along the lines promoted by Opening Minds. Finally, a much more personalised approach would see learners as independent and autonomous. On this final point, it is important to note that personalisation is not about individualised learning – personalised learning depends, integrally, on learners being able to locate and contact the best possible resources and support to succeed in any given problem, whether from a friend from the same classroom, a teacher, or someone else from off-site contacted through other means (for example, through a youth centre or through the web).

| Characteristics of three approaches – complementarity and difference  |  |   |   |
|---|--|---|---|
| <b>ELLI</b>   | Individual – within subject areas<br>↓ | <b>Opening Minds</b>  | <b>Enquiring Minds</b>  |
| <b>Self-review questionnaire</b>                                      |  |   |   |
| <b>Dispositions:</b><br>-resilience<br>-curiosity                     |  | <b>Competence 3: Managing situations</b><br>-managing own time<br>-able to celebrate success and manage disappointment<br>-able to take initiative and manage risk and uncertainty                            |   |
| <b>Individual review</b>  |  | <b>Competence 2: Citizenship</b><br>-understand and appreciate cultural and community diversity<br>-understand social implications of technology<br>-ability to participate as an active citizen              | <b>Element 1: Focusing on the world (initiating ideas)</b><br>-techniques for observing<br>-able to question assumptions<br>-respect for different perspectives<br>-collating and comparing experiences   |
| <b>Dispositions:</b><br>-learning relationships                       |  | <b>Competence 4: Relating to people</b><br>-able to manage or be managed by others, inc teachers & peers<br>-operate in teams<br>-develop range of communication techniques                                   | <b>Students focus their ideas for independent study</b>   |
| <b>Group Review</b><br><b>Dispositions:</b><br>-changing and learning |  | <b>Competence 5: Managing information</b><br>-techniques for accessing, evaluating and differentiating information<br>-techniques for analysis, synthesis and application<br>-able to apply critical judgment | <b>Element 2: Researching the problem</b><br>-possess strategies for collecting and evaluating data<br>-act constructively on criticism and failure<br>-be constructively critical of own and others' assumptions<br>-able to work effectively in teams, according to roles and tasks |
| <b>Dispositions:</b><br>-creativity<br>-meaning-making                |  |   | <b>Element 3: What's our contribution?</b><br>-planning interventions<br>-motivation to refine and improve ideas<br>-defining tasks and necessary actions<br>-implementing plans and agreeing timetables<br>-communicating to audiences   |
| <b>Dispositions:</b><br>-strategic awareness                          |  |   | <b>Element 4: Review and reflection</b><br>-ability to review effectiveness of own contribution and effectiveness of team work<br>-able to identify strengths and limitations of work produced<br>-able to identify opportunities for refinement or further work                      |
| <b>Review of individual and group...</b>                              |  |   | <b>Element 1: Focusing...</b><br>-producing new cycles of enquiry   |
|   |  | Group work – off-timetable but teacher-defined<br>↓   | Independent – pupil initiated autonomous and team work<br>↓   |

## Directions in new technology

This brief section explores some broad trends in how new technology has evolved in the last few years. It identifies what the research literature suggests that users are benefiting from using it, and the potential impact that these new technologies and their uses have for teaching and learning in the next few years.

Since the burst of the dotcom bubble at the turn of the century, the period during which vast investments were made in ambitious, profit-making internet enterprises, there has been an incremental growth of web-based services and activities that have matured from the ground-up rather than from top-down business planning. The most recent successes on the web are not necessarily commercial, but more about interpersonal communication and sharing between individual and groups enabled and supported by tools and services. Increasingly, commentators suggest that these are the kinds of technologies that young people, including schoolchildren, will be experiencing in their out-of-school lives.

Some are calling the latest era of digital development 'Web 2.0'. In an essay on the subject, Tim O'Reilly (2005) offers some definitions of web services and software that might be described as web 2.0:

- control over unique, hard-to-recreate data sources that get richer as more people use them
- trusting users as co-developers
- harnessing collective intelligence
- software above the level of a single device (ie iTunes on hand-held and PC).

In short, whatever we call it, the technologies emerging and thriving today on the web are increasingly responsive to users, and offer services that allows users to work together to create something new. We're moving from seeing the web simply as somewhere for consumers to go, and more as somewhere that people go to participate, communicate, and produce.

Notable examples of this more communicative and participative web include the photo-sharing website Flickr, online auction eBay, global photographic map Google Earth, collaborative online word processor Writely, the proliferation of chatrooms and messageboards, as well as weblogs – easily created and edited online journals – and wikis – editable websites. Similarly, computer games are migrating to the web, where they are able to play host to tens of thousands of players simultaneously. Logging on to games such as Anarchy Online, you're as likely to encounter players deep in conversation with each other as in battle with demons; in fact, to be able to play at all requires communication and cooperation with others.

In the last couple of years, some of the sorts of tools described above have become known as 'social software', although many of their mechanisms have existed for years. Social bookmarking and tagging are relatively recent additions to the array of social software available. Social bookmarking has taken off since the launch of <http://del.icio.us> in 2003. Fundamentally it is a web-based application that allows users to store bookmarked links to URLs in a format accessible via the internet. Adding tagging to this functionality, however, transforms it into social software, as it enables the searching of other users' bookmarks through keywords as defined by them. When users add a bookmark to a URL they also have the opportunity to attach tags to that bookmark. The principle here is that searching through key words assigned by other members of your community means you are searching in a social context – and because you

are searching sites tagged by people with whom you may share a perspective rather than simply searching text in a webpage you will therefore achieve more relevant results than relying on search engines.

Stowe Boyd (2003) recognises three characteristics of social software that are becoming increasingly common:

- **Support for conversational interaction between individuals or groups** ranging from the real time instant messaging to asynchronous collaborative teamwork spaces. This category also includes collaborative commenting on and within blog spaces.
- **Support for social feedback** — which allows a group to rate the contributions of others, perhaps implicitly, leading to the creation of digital reputation.
- **Support for social networks** — to explicitly create and manage a digital expression of people's personal relationships, and to help them build new relationships.

He goes on to argue that while it is humans who have created this software, it is that very software that is helping to shape humans, changing the ways that we socialise. It is designed in such a way that it allows individuals to enter into new social relationships and groupings in order to achieve specific goals. It is in this sense that we might regard the social and communicative aspects of new technologies potentially as important to users' social and intellectual lives, and therefore in teaching and learning too.

What, then are the benefits to users of these recent trends in technology development?

In an essay on the recent evolution of the web, Tim O'Reilly (2005) draws a number of distinctions between the 'dotcom' era of the web, and the current era. The most useful of the examples he provides is a comparison between Britannica Online and Wikipedia: the former a *web publication* of a long-established and ostensibly authoritative print text; the latter a *web production* with countless authors from all over the world whose collective expertise – not their individual expertise – all contributes to an increasingly sophisticated, evolving hypertext.

This is a useful symbol of the changing landscape, since it draws particular attention to the status of knowledge. David Weinberger (2005), Fellow of the Harvard Berkman Center, recently argued that the new shape of digital technology development is leading too to a "new shape of knowledge," one symbolised by piles of leaves rather than by trees. He suggests that prior to the recent moment, knowledge had been organised according to the "economics of paper" and that, therefore, the logic of knowledge was that it was authored, committed to text and final, as static as a tree.

The new shape of knowledge, in the form of piles of leaves, has a quite different logic: it can be re-organised, moved; it's far more portable, and can be improved through the participation of many voices; there is no central 'trunk' or verifiable 'fact' to which it must necessarily correspond. This logic is more cooperative, and welcomes participation; knowledge is regarded much more as something that emerges from collective participation than as something pre-defined which everyone individually aspires to understand.

In the book *Smart Mobs*, Howard Rheingold (2003) suggests that the latest technologies and web services and tools are leading to the "next social

revolution". He identifies the notion of a smart mob – a pun on mobility and a mass of people intelligently acting together – and notes:

"Smart mobs emerge when communication and computing technologies amplify human talents for cooperation. The impacts of smart mob technology already appear to be both beneficial and destructive, used by some of its earliest adopters to support democracy and by others to coordinate terrorist attacks."

For Rheingold, smart mobs are both interconnected technologies and interconnected social groups, where the technologies support people to interact with each other in new and novel ways.

In the realm of computer games, too, commentators have begun to identify the importance of the social element of play. James Paul Gee, in *What Videogames have to Teach Us about Learning and Literacy* (2003), suggests that players (offline or on) learn to negotiate games by affiliation with groups of like-minded others. Gee likes to describe computer games as "little learning engines", meaning that they are designed to be learned – a game that can't be learned, or that is too hard, is a failure, and by the same token, a game that is too easy and does not challenge players is a failure too.

However, he appends this argument by suggesting that what players do when they are 'stuck' on challenges they cannot overcome is to seek out help through sources such as the internet, including message forums, where they can exchange queries and responses. In the process, as thousands of people do the same, vast groups can form. A notable example is Apolyton.net, an online university for players of *Civilisation III*. Set up and run by players, the website's authors have gone so far as to offer online 'courses' and establish their own committee and Dean. The kind of knowledge that emerges in such groups, then, can be seen as distributed, with intelligence developing from the interconnections of individuals forming into collectives.

Given these increasingly popular practices, what is changing in young people's lives that educators might need to note? Are young people somehow different today than they were ten years ago? Many would argue that, yes, the pleasures and practices associated with use of digital technologies are fundamentally altering the ways in which young people view themselves and their relations with others, and the ways in which they develop understandings outside school:

"Computers and the new media are increasingly central to the lives of today's children and youth ... global media culture, including online culture, has become integrally bound up with children's and teenager's affiliations, identities and pleasures ... This kind of social participation is integrally bound up with the ways in which symbolic meanings are made, negotiated and contested, and is therefore of central concern to literacy research."  
(Nixon 2003, in Beavis 2004)

Catherine Beavis develops this argument to take account of the uses of online computer games, arguing that:

"The adage that new technologies are changing literacy is nowhere more evident than in computer games. To play the game, players need to move between old and new genres, print, visual, aural and other forms, static and moving images, attend to multiple still and moving images, and to gesture, colour, icons and sound. Furthermore, computer games draw on a range of

textual and intertextual knowledge relating both to the narrative and to the genre of the game.” (Beavis 2004)

Although computer games are often regarded as little more than simple fun, Beavis’ view is shared by many others, who agree that these complex digital environments are confronting young people with challenges that they rarely confront in school. Outside of school, it is argued, many young people are therefore developing a number of cognitive, collaborative and literacy skills important for their ongoing development.

What is more, there has been a recent interest in activities called Machinima. Machinima is a growing trend in the use of games media to create movies. Players meet online, create and perform scenes within the environment of the chosen game, and then edit those scenes together into a continuous narrative. Such activities, while currently quite niche, demonstrate how these complex digital tools can be used not just as resources to be read or played, but as resources for original production.

In another account of changing literacy practices, Guy Merchant discusses the apparently aberrant use of English by teenagers in text messages and in online chatrooms:

“The use of popular electronic communication is resulting in linguistic innovation within new, virtual social networks [...] Young people who have access to this technology are active agents in a developing linguistic market [...] Through their experimentation with the new communication media, the same young people who are seen as being at risk through their aberrant use of language are actually developing very marketable skills [...] in a new technologised social order.” (Merchant 2001)

Colin Lankshear (2005) has recently embraced the idea of Web 2.0 as a potential model for schooling – what he terms School 2.0:

“It goes to the idea we have clumsily referred to in our fledgling work on 'digital epistemologies'. The points I homed in on were O'Reilly's references to Wikipedia [...] Whereas our work on digital epistemologies to date has tended to focus on aspects of credibility and validity and significance that do not seem to lean toward some kind of 'truth' criterion, it is obvious that there is useful work to be done around the Web 2.0/Wikipedia variant of 'expertise'. For what is at stake here is not so much a matter of questioning or abandoning 'quality' defined in relation to something like 'reasonableness' or 'defensible arguability' or correspondence to what the best formed minds in the area think. Rather, it is more a question of how a knowledge community *gets to* that quality. The 'old' way was through nurturing and honouring individual expertise [...] The 'new' way seems to be through harnessing collective expertise through successive refinements and ongoing conversations.”

For Lankshear, then, the potential impact of the current models of knowledge production by collectives for schooling is a recognition of the importance of the process through which pupils agree on the qualities of an argument, an article, or a 'fact'. He regards Web 2.0 as similar to the 'contending mindsets' of the new literacies movement. This is the idea that schools which are really flying a new literacies banner recognise the multiple contesting viewpoints which inhabit classrooms, and work with those viewpoints to come to collective understandings, just as wikipedia communities eventually come to consensus through multiple user entries. However, Lankshear doesn't believe that School 2.0 actually exists,

nor any program “anywhere that looks like official interest in... producing and assessing scholastic knowledge and understanding that really matters.”

The challenge of Enquiring Minds is not to produce School 2.0, but very much to produce and assess scholastic knowledge that really matters. It is also not necessarily to co-opt the digital activities that young people are performing outside school, but very much to recognise these and their implications for how we approach teaching and encourage learning.

## **Student voice and students as researchers**

Many recent developments in the cultural, social, technological and economic domains have implications for the ways in which we characterise and educate young people in schools. In the first place, dramatic changes in the economic organisation of advanced capitalist societies have led to the realisation that societies require forms of education that are more flexible and learner centred. Secondly, such economic changes are accompanied by an ‘unfixing’ of social structures and cultural norms which means that social roles (such as those between adults and children) can no longer be assumed to work on ‘tradition’ and fixed roles. This has created the space for the assertion of children’s agency. We should be clear that these developments are not without contradiction and this is particularly apparent in the case of children, who are at once celebrated for their creativity and invention and feared or seen in need of tighter regulation. However, despite these tensions, it is perhaps possible to see a new agenda for schooling that recognises students’ participation and voice.

This movement towards recognising the central involvement of children or students in schooling is described by Michael Fielding as ‘new wave’ student voice. It is supported by a whole range of activities that “encourage reflection, discussion, dialogue and action on matters that primarily concern students, but also, by implication, school staff and the communities they serve” (2004:199). Fielding’s work is the most reflective and challenging in this field because it seeks to distinguish between approaches that are “benign but condescending, cynical and manipulative, supportive and groundbreaking” with regard to the involvement of young people. In short, he tries to differentiate between the rhetoric and reality of student voice in schools.

Fielding draws upon the philosopher John MacMurray who argues that two different modes of encounter define our being in the world. These are *functional* and *personal*. Functional relations are those that help us to get things done in order to achieve our aims, eg buying a train ticket. We don’t invest much meaning in them because there are purely about achieving our goals. In contrast, personal relations are those that exist in order to allow us to be ourselves and involve a mutual preparedness to be open and honest with each other, eg going to the seaside on a train with our friends is not the purpose of our friendship. Rather, it is an expression of our enjoyment of one another.

Based on this distinction, Fielding produces a typology of schools according to how they deal with the links between functional and personal relations.

1. The **impersonal school** favours functional over personal relationships. It is primarily concerned with efficiency. People’s desire to relate to each other as persons or to work together as a community are seen as irrelevant or threatening to outcomes. In terms of teaching and learning, teachers typically see themselves as teaching subjects not students; motivation is primarily through appeal to the

importance of particular subjects; content is tightly controlled by the teacher, with insignificant room for negotiation. The teacher acts largely as a highly skilled pedagogic technician.

2. The **sentimental school** favours the personal at the expense of the functional. Teachers typically see themselves as teaching students not subjects; motivation is primarily through appeal to the student's own best past performance (ipsative), without reference to the achievements of others, and there is often exhortation and encouragement which centres on the importance of not letting the teacher down; curriculum content is fluid and emergent, but rarely allows pupils to make strong connections between subjects. In sum, the teacher operates in ways that are very close to certain kinds of therapy with a marked preference for focusing on learning at the expense of teaching.

3. The **high performance or effective school** is committed to achievement – in this school personal relations are used in order to increase functional relations. This is linked to the notion of the effective school. Community is valued, but mainly for instrumental purposes within the context of national or local league tables. Teachers and students are valued to the extent that they contribute to the goals of the organisation. Students get the message that they are valued in as far as they contribute to the exam results (for instance, those who are on the C/D borderline are singled out for extra attention). Teachers are subject to the same messages: their significance is judged in terms of performance. Their main task is getting results; motivation is primarily competitive, with an insistent reference to the importance of levels and outcomes; content is tightly controlled by teachers, but there is a substantial effort to create 'ownership' by students. In sum the teacher is a highly skilled persuader with an overriding emphasis on 'what works'. Fielding thinks that this leads to a situation where the pressure to achieve results means that the moral and interpersonal needs of individuals are squeezed out.

4. The **person-centred school** goes beyond being a learning organisation to become a learning community. Here school organisation has an important part to play, but one in which the structures and procedures promote community. It goes beyond the effectiveness of the high performance model in that it values outcomes that are morally and interpersonally meaningful as well as instrumental. Teachers operating within the person-centred framework take the view that teaching subjects or getting results is only justifiable if it actually helps students to become better persons; motivation appeals not only to the pupil's own best performance, but also in the success of others. Content is discussed at various points and joint decisions about what and how to study are made in the light of these discussions. The teacher operates as an educator of persons in the broadest sense.

Clearly, Fielding's typology raises some important questions about the types of student participation in schools and the relationships between teachers and students. His work offers some powerful arguments with which to support the types of teachers and schools we seek to develop.

The following table provides further detail about student participation in the different types of schools.

| <b>Impersonal organisation</b>   | <b>Affective community</b>   | <b>High performance learning organisation</b>   | <b>Person-centred learning community</b>  |
|--|--|---|---|
| <b>Student voice:</b><br>Restricted formal consultation making current arrangements more efficient | <b>Student voice:</b><br>Listening fostering closer understanding of those involved          | <b>Student voice:</b><br>Wide ranging formal and informal consultation making current arrangements more effective | <b>Student voice:</b><br>Wide ranging formal and informal engagement to enhance teacher and student development as people |
| <b>Power:</b><br>Hierarchy explicit among staff and students                                       | <b>Power:</b><br>Tacit role and hidden power relations                                       | <b>Power:</b><br>Adult use of student perspectives for institutional purposes                                     | <b>Power:</b><br>Joint work partnerships, often exploratory, rarely predictable   |
| <b>Relationships:</b><br>Distance and formal respect   | <b>Relationships:</b><br>Closeness: maternal/paternal  | <b>Relationships:</b><br>Instrumental use of trust and relationships  | <b>Relationships:</b><br>Mutual trust, care and respect   |
| <b>Ethos:</b><br>Formal ethos  | <b>Ethos:</b><br>Informal ethos  | <b>Ethos:</b><br>Apparently open ethos framed by need to see measurable results                                   | <b>Ethos:</b><br>Enabling ethos encouraging diversity and inclusiveness amongst all learners                              |
| <b>Action:</b><br>Tight teacher control of action  | <b>Action:</b><br>Little action with unlikely long-term effect                               | <b>Action:</b><br>Action supported within arena of institutional priorities                                       | <b>Action:</b><br>Shared responsibility for (often joint) action on mutually agreed projects                              |
| <b>Typical activity:</b><br>Student council decides on date and time of social event               | <b>Typical activity:</b><br>Informal discussion over lunchtime about forthcoming school trip | <b>Typical activity:</b><br>Students-as-researchers explore, say, disaffection of Year 8 boys                     | <b>Typical activity:</b><br>Students and teachers develop more exploratory forms of pedagogy together                     |

In this section we have argued that within recent educational debates there is a move towards the recognition that children bring some important cultural

resources to the educational experience and that these have important implications for learning. At the same time, it is also important to understand that there are real tensions at work within schools which mean that children's cultures and students' voices are not always recognised. This suggests that an important part of the Enquiring Minds project will be to understand why this is so.

As part of the program, then, it is our intention to involve a small group of students from each of the two partner schools as 'student researchers'. These two groups will be taught to take responsibility for designing research questions and methodologies, data collection and analysis, and for reporting their findings appropriately. Their research will contribute to the evaluation and the future design of the program.

The rationale for recruiting students as researchers in the project is based on a growing body of research and literature emerging both from the UN Convention on the Rights of the Child (1989) and 'student voice' initiatives such as the English Secondary Students Association (ESSA). It also chimes with a recent discourse of child participation arising mainly from the charity sector and with the sociology of childhood, as well as with educational policy on the provision of citizenship education. According to a DfES recommendation, from September 2004 all young people should be consulted by their teachers about the scope of the issues covered in citizenship lessons.

Increasingly, a groundswell of opinion in research, policy and schools is beginning to recognise that children have important things to say about their learning and even about teaching, and that therefore they should be consulted about it. It rests on the understanding that children are "experts in their own lives" (Kellett 2005) – that is, they are best-placed as insiders within their social and educational worlds to report on them – and that allowing them to participate in making decisions in these domains can develop their self-esteem, attitudes and autonomy, and allow them to feel that their views are respected.

The involvement of students as researchers also arises from the understanding that young people are often able to elicit from their peers findings that adult researchers and teachers may not be able to reveal and report. Priscilla Alderson explains:

"Respect for children's participation recognises them as subjects rather than objects of research, who 'speak' in their own right and report valid views and experiences. To involve children more directly in research can rescue them from silence and exclusion, and from being represented, by default, as passive objects." (Alderson 2001)

Alderson reports three broad approaches to the recruitment of students as researchers. Firstly, as researchers within their subjects using questionnaires, interviews and other data-gathering techniques to complement ongoing lesson work. Secondly, as participants in adult-led research projects, where they help to plan research, collect and analyse data, and report or present findings. And thirdly, as self-motivated researchers developing their own research projects, and carrying out all associated work independent of adult intervention.

In the Enquiring Minds project, we initially intend to recruit student researchers in order to work alongside the adult research team in order to gather more robust data and to ensure that the program planning takes into account the needs and demands of students that might otherwise go unnoticed. They will be responsible for carrying out research on the project in tandem with adult researchers, and will report and present their findings in their own language. This approach seeks to

avoid the pitfalls of the sorts of external interventions in schools identified by Soo Hoo:

“Somehow educators have forgotten the important connection between teachers and pupils. We listen to outside experts to inform us and consequently overlook the treasure in our very own backyards, the pupils.”  
(Soo Hoo 1993)

There are inevitably a number of difficulties associated with managing student research work. For Michael Fielding, a lot of student voice-based work tends towards forms of exploitation and manipulation rather than empowerment. He describes a number of common features including how students’ potentially disruptive ideas are accommodated into the existing structures of the school and used only to reassert the status quo; how the accumulation of data about students can be used for regulation or surveillance and to control them more effectively; and how only some students’ voices are listened to – usually those that make most immediate common sense and don’t appear too anomalous, strident or offensive. Successful student voice work, on the other hand, Fielding identifies as requiring commitment from staff and students alike, engaging each other in a dialogue-rich relationship in which views are shared and discussed, and decisions made together; inevitably, teachers’ and students’ views differ, and it is in the negotiation of these views that positive school change becomes possible.

The student research group, then, will operate in partnership with the external Futurelab researchers and, once appropriately prepared to conduct their own research work, will collect and analyse their own data, and share and discuss their findings with the Enquiring Minds teaching staff members.

## **Schooling and educational change**

In this section, we offer an account of how schooling has traditionally defined or constructed the ‘child’ and provide an initial account of how schools change.

In the 20th century, many nation-states sought to organise their members’ daily needs in terms of a set of programmatic provisions. These included health, welfare, and education. The fact we find it unremarkable that children are legally compelled to spend ten to twelve years in schooling is a testimony to how far their care and socialisation have been placed in the hands of professional practice. However, in order for schools to accomplish such work, they have had to come up with (construct) increasingly refined versions of the child. This involved coming up with acceptable definitions of children, their needs, how they learn, what materials they learn from, and how they might be assessed. Chronological age was a central organising principle, not least because it appealed to commonsense. So, schools assembled children into grades by age and teaching settings, materials and assessment practices became age-tailored. Key to this view of the child was the rise of the discipline of developmental psychology which was built upon two important assumptions. First, children are ‘natural’ rather than social phenomena, and second, children are in a process of natural development towards maturation. This ‘psychological’ view of the Universal Child legitimates the naming, grading and classifying of children and is linked to practices in schools.

In addition, schools took upon themselves responsibility for providing children with technical skills, civil responsibility, personal development, mental and physical health, cultural awareness and so on. Thus schools today conduct sex education, drugs education, road safety education, relationship education – we

take these things for granted, but one hundred years ago communities did not typically consider these things to be the responsibility of the school. By the end of the 20th century it had become commonplace to expect schools not only to provide settings conducive to learning about these things, but actually to have programmes – syllabuses, assignments and assessments – in these areas.

Over time, larger numbers of children from increasingly diverse backgrounds came to be the responsibility of the school. Schooling increasingly needed to serve people who spoke diverse languages, came from a variety of cultures and who held complex ideas about what constituted the child, about where the child was headed and what schools should do about that. One way to deal with this diversity might have been to decentralise and disperse the management of schooling. However, increasingly the answer was to centralise and offer communities a common vision of what the school could provide – linked to notions of equality of provision and thus of opportunity. These provisions were to be presented to the Whole Child.

Of course, it is important to recognise that since its inception schooling has performed many intersecting and simultaneous functions. These include:

- **pastoral** – children are given caring and humane environments in school in which to grow and develop
- **skilling** – schools have a significant role in the production of a skilled and competent workforce
- **regulative** – schools transmit forms of orderliness and control to a potentially disorderly population
- **human-capital** – the investment of effort and money in schools directly enhances economic productivity
- **individual expression** – schooling is the context in which individuals can learn to explore, develop and express their personal goals and aspirations
- **cultural-heritage** – people are introduced to ways of thinking and acting that have been valued over time
- **political** – schools produce a citizenry dedicated to the preferred political principles of the society.

These are all legitimate functions of schooling. In practice, the balance of these is in part the outcome of economic, cultural and social discourses. These discourses have at their core preferred ways of thinking and talking about inter-generational relations- about how children and adults should relate to each other. Each of the above named functions of schooling embodies a particular type of Child of the curriculum - the supported child, the child skilled and regulated for vocational life, the child performing up to standards, the self-expressing child, the educated child, the democratic-citizen child.

Of course, the corollary is that each of these different notions of the child is accompanied by notions of the 'Teacher'. At this point, the question arises as to how these different constructions of the child in schools actually come about, how different versions of the child are realised in practice. This requires an account of how educational meaning is produced. A useful place to start is Freebody's (2001) argument that:

"The mundane, generally unnoticed interactions associated with educational practices are more than static accompaniments, and that, indeed, they constitute those practices and make them recognisably 'educational'."

What this means is that teachers and children in classrooms are not acting out educational 'scripts' in which they take the roles of teacher and student, but

actively constitute them in their interactions. This is linked to a larger claim that "everyday interaction weaves and re-weaves social order". Thus social categories are built by people's everyday concerted activities. This provides a means for thinking about what happens in classrooms, and suggests ways in which they could be changed.

Given these comments, we would suggest that one of the most important tasks of Enquiring Minds is likely to involve a 'de-naturalisation of childhood', highlighting that existing assumptions about what it means to be a child in school are not fixed and immutable. If this seems an impossible or improbable task, we should note that there already exist many examples that point to how understandings of student-teacher relations can shift. For example, one current example is the shift taking place among teachers and children about what constitutes 'intelligence'. Narrow forms of 'cognitive' or 'logical' intelligence are increasingly challenged by teachers in schools who argue for a variety of 'multiple intelligences' (Gardner).

So, if we accept that forms of schooling based on commonsense understandings of the 'teacher' and 'pupil' are not fixed and are capable of change, we are able to explore some questions about the purposes of educational change and how such change might be brought about.

In an early discussion Hoyle (1972) suggested that there are three reasons why anyone would seek to promote educational change:

### **1. To modify the system**

Much educational activity involves suggestions on how to modify the present system. This was the major aim of curriculum development projects in the 1970s and early 1980s. It generally involved recognition that the content of the school subjects was in danger of becoming out-dated and in need of revision. Alongside this there are innovations that are concerned with how children learn, new approaches to learning and breaking down barriers between subjects.

### **2. To transform the system**

For some critics changes in curriculum and learning styles are not radical enough. These critics seek to bring about a more far-reaching transformation in the school system. There is often a functionalist ring to these arguments based on the idea that the rate of social of social change is so great that schools will be unable to resist and that change is inevitable.

### **3. To abolish the system**

This approach was fashionable in the 1960s and 1970s and held that schooling was not merely a reflection of society but curbed thinking to the point where it was anti-intellectual, condemning children to years of inhumane incarceration and failing to challenge or stimulate. For writers such as Illich (*De-Schooling Society*) and Reimer (*School is Dead*) it was an undeniable human right that all those who want to learn should have access to available resources for learning at any time in their lives. This would be achieved by the provision of various networks, skill exchanges and other devices that would bring together learners and those who possess the skills they wish to acquire.

This discussion raises a number of important questions for Enquiring Minds. For a start, it means we need to reflect on whether we see the goal of the project as modifying, transforming, or abolishing the educational system? It is important to recognise that different people or groups involved with the project may have different views about this. For instance, part of the published programme for Enquiring Minds draws upon discourses and ideas associated with the 'de-schoolers'. Thus it is argued that schools do not meet the needs of young people

to be creative and independent and that new digital technologies perhaps offer the potential to set up the types of networks envisaged by Illich and co. However, it may be that Enquiring Minds is less concerned to 'abolish' the school system (as if that were possible) than transform it (albeit in 'radical' ways). If this is indeed the case, it is less clear that there is an explicitly theorised 'model of change'. The teachers involved in the project to date have more modest expectations. They often talk of the project as having the potential to change the ways in which they teach and relate to children, but rarely of its potential to change the system (this is not to say that they don't harbour these wishes). Thus, there may be significant differences in the aims of the project.

As well as different purposes for educational innovation, there are different ways of seeking to bring about change. Whiteside suggested that those seeking to develop educational innovation worked with three 'models of change'. As with all classifications, it is important to recognise that any specific innovation will likely employ a range of strategies:

### **Rational change**

In this version it is assumed that in order to bring about educational change the teacher simply needs to gain awareness and understanding of the innovation. Once this is achieved, the teacher will be convinced of the superiority of different ways of working and make a rational decision to adopt the innovation and change his or her practice. The underlying assumption is that reason and 'scientific' evidence will win out over the less rational or ideological aspects of the individual's beliefs, which may be to do with the culture of the school he or she is working in or the barriers that impede change. In this version, the only thing holding teachers back is their ignorance. The change agent is generally a university lecturer or educational critic – and the model is that of the hypodermic injection of innovations.

There are, of course, many problems with this model. First, it assumes that there is a high level of consensus about the need for a given set of changes and that teachers are convinced of the need for change. Second, it assumes that there is a body of scientific evidence about what constitutes effective teaching. However, educational research, by virtue of the fact that it is concerned by human meaning and interpretation, does not live up to this assumption. Nevertheless, it is fair to say that some of the teachers on this project appear to adopt the position of the 'rational man' in that they see the researchers as offering ideas and insights that, if proven, would be worthy of adoption.

### **Coercive change**

Coercive change might perhaps be called 'external' change. It involves innovations or changes being 'forced' upon teachers and schools from outside. These were historically the most common ways in which education systems were regulated. It is tempting to say that this is the approach that underpins the development of the National Curriculum and more latterly the national strategies. These are based on a system of high stakes testing and monitoring of teacher outcomes combined with a punitive inspection regime. There are obvious problems with this approach, notably because the relative insulation of the teaching role and its low visibility mean that it is quite easy for teachers to 'break the rules' without being noticed (though in true Foucauldian fashion it can be argued that teachers do a pretty good job of self-monitoring and policing).

Such a model of change is not readily applied to Enquiring Minds. First, the schools and the teachers involved are volunteers and can opt out at any moment.

Second, teachers' models of professionalism and work cultures can be resistant to change. Finally, the life of classrooms and organisational demands are so complex that it is the environment in which an innovation is introduced will determine how the innovation is altered and adopted.

### **Normative change**

In essence, this approach grew out of an awareness of the limitations of rational and coercive models of educational change and is based on the assumption that changing schools is about changing people – their perceptions, attitudes and behaviour. The argument is that those who seek to effect educational change need to focus on people because it is people who make and maintain organisations. Whiteside suggests that there are three steps to this process: unfreezing, changing and freezing. He argues that change agents should start from the assumption that teachers will be committed to their present ways of operating and therefore will resist learning something new. It follows that the important thing about a planned change is the process of unlearning present ways of doing things. This is perhaps the most difficult thing. It would be easy to underestimate the social support necessary to for unlearning. There is a need for 'temporary systems' such as attendance at courses in which members are 're-educated' or given space to experiment in ways outside of their normal support systems. However, there is some evidence that as soon as individuals return to their normal settings they revert to the controls that define their original practice. Indeed there may be a sense in which individuals are 'worse off' than they were before, having glimpsed a vision of what might be without the power to change their practice.

The model of educational change that comes closest to that adopted so far by Enquiring Minds is the 'normative re-educational'. In part, this is because it is the approach that is most in line with the assumption that knowledge is 'socially constructed' that underpins the project. Less prosaically, it is the approach that we as individuals on the project feel most comfortable with; we don't feel able to tell teachers what to do. The practical consequence of this is that we spend a good deal of our time on this project talking to and working with teachers.

This typology of planned educational change is useful in helping us to think about the Enquiring Minds project. However, it tends to present a rather ahistorical view of educational change. In particular it refers to a period when it was believed that educational change was very much promoted by internal change agents within schools. Thus it suggests that educational innovation is the result of the professional autonomy of educators. However, in the 1980s and 1990s educational change was seen to exist in and originate from the actions of external agents, such as government departments or agencies. As Goodson (2001) argues, internal change agents faced a 'crisis of positionality' where their potential to develop their own internal and personal visions of change was pre-empted by external interest groups. They are positioned as conservative respondents to, and often opponents of, externally initiated change. This hints at some of the reasons for the frequent failure of many externally generated reforms – they promise strong generalisability or a wider reach, but they rarely account for how innovations are refracted through each school context, through the varied micro-climates and micro-practices of schools and through teachers' own personal beliefs and missions. As Goodson notes, paraphrasing the former US president Bill Clinton, 'It's the teachers, stupid'.

Goodson argues that a more refined notion of educational change cannot be based solely on an understanding of internal (teachers) or external (governments) change agents, but must pay attention to the personal 'missions'

and purposes of educational change. This is because in conditions of what the sociologist Anthony Giddens (1991) calls 'late modernity', the issue of teachers' identity projects – or their 'hearts and minds' – are crucial to educational change. Goodson notes that 'change begins with a transformation of people's personal perceptions and projects and flows outwards into the social and institutional domain'.

Goodson draws upon Sheehy's (1981) work to summarise the changes individuals need to go through in the process of change:

| <b>Phases of the creative process</b>  | <b>Phases of a successful passage</b>  |
|--|--|
| Preparation – gathering impressions and images   | Anticipation – imagining oneself in the next stage of life   |
| Incubation – letting go of certainties   | Separation and incubation – letting go of an outlived identity   |
| Immersion and illumination – creative intervention – risk  | Expansion – deliberate intervention in the life conflict – risk  |
| Revision – conscious structuring and editing of creative material; dormancy – a creative pause for the replenishment of self | Incorporation – reflection on and integration of one's new aspects; dormancy – for rest, reward, and play to offset stress of change |

Goodson's account is useful in helping us to understand the new conditions in which educational change is taking place. It suggests that in order to succeed change must seek to integrate internal, external and personal aspects in new 'chains of change'. He suggests four elements to this model:

- Any educational changes have to be defined and negotiated by both teachers and staff within schools and external agents. It should be recognised that change is centrally located in the hands of school agents and closely linked to their personal projects and concerns. People must want to change, otherwise any change will be both gruelling and grudging, and therefore lack the conditions for sustainability or generalisability.
- The micro-politics of schools are central to understanding change. Teachers' work, their professional labour, their personal concerns and instruments are at the heart of education. To change education is to change teachers' work and vice versa. This requires internal re-negotiation. Each school has its own micro-politics; just as each school has its own ecology. As Goodson notes: "To trample in the 'secret garden' of the school is a very dangerous process, best left to those who know its ecology".
- Educational change involves confronting existing memories of schools and school practices. These memories and notions of schools, subjects or teaching do not exist simply in the minds of teachers but are also embedded in the wider community. This suggests that there is a need to develop community awareness of new reforms.
- Change should be seen as starting from small-scale shifts in individual's ways of doing things. These changes need to be recognised, understood and shared with other people in order to convince them of the possibility and desirability of change. Over time, supporters are mobilised and finally coalitions are formed.

Goodson's model of school change is particularly useful when viewed alongside the 'new wave student voice' work of Michael Fielding. Taken together, the two proposals for change suggest that key to the process of transformation in pedagogy and learning is dialogue between teachers and students alongside external agencies. In the case of Enquiring Minds, teachers are responding to suggestions from external researchers regarding their usual tendency to deliver a very structured curriculum, and are being encouraged to promote children's own ideas as catalysts for curricular re-organisation. This work necessarily takes place in small-scale shifts over time. By recruiting a small network of teachers into this process rather than treating them individually, however, the project is providing reflective space in which incremental changes can be recognised and shared. It also allows these teachers to co-plan activities that take more risk, that are somewhat more experimental than their usual routines, and that invite students (with all their manifold prior experiences and knowledge) themselves to become more responsible for defining the directions that teaching and learning take.

### **Summary and pointers for the future**

The review of the literature in which Enquiring Minds is grounded raises a number of important considerations for the development of the project and for theorising the findings which will emerge from it. It goes without saying that all of what follows is 'up for grabs' in the sense that the future is in no sense decided in advance. Enquiring Minds is cognisant that it operates in a complex educational landscape marked by important struggles about what education could and should be about. For example, the meaning of a term such as 'knowledge economy' cannot be assumed.

The history of curricular critique and innovation in the 1960s and 1970s reminds us that concerns about content-heavy schooling and proposals for new educational models which promote children to develop knowledge and understandings which are personally useful and meaningful have been well anticipated. In the 21st century, it is once more becoming clear that young people will need to be able to develop the skills that will equip them for a new economy. The knowledge economy depends on a spirit of co-operation rather than competition, and equipping students for this will require them to be able to deal with contingency and change, with new communicational technology, and to be able to critique old knowledge and produce new knowledge.

We are at a period when the ways in which we think about childhood are changing. Increasingly, the children's rights agenda is shaping how we view and educate them. The new sociology of childhood is a theory of advocacy for children. It advocates their rights, interests and purposes, and takes seriously the economic and social contexts in which children develop meaning and understanding, rather than essentialising them as a stable unchanging entity. Enquiring Minds therefore needs to take seriously the informal cultures of the students from the participant schools.

Recent recognition of the role of new technology in young people's lives has led to some of the same over-determinism found in other outmoded conceptions and critiques of childhood. It is important to recognise that there is no single homogeneous 'technology-savvy child'. For a range of cultural, social and economic reasons, children's experiences of new technology differ widely, and a view which supposes that all young people are natives in a digital society is misguided. Enquiring Minds, then, must start from children's diverse social worlds and their experiences of using technology – it must not start from an assumption

that children are being equipped automatically with proficiency and interest in a digital world.

The potential benefits and challenges of new technology to schooling, however, should not be underestimated. It is clear that developing students' ability to navigate an increasingly digital environment in which information and knowledge are constantly in transaction is likely to require them to become much more critical consumers as well as producers of knowledge. Current trends in the development of new technologies, tools and services are oriented towards participation and cooperation and not just to consumption. At the same time, conflicting viewpoints abound in these digital environments, with the result that information once seen as static and unchanging is now much more likely to be contested, updated, or even erased. The communicational potential of many digital environments also offer potential opportunities for learners to access expertise or resources compiled by expert practitioners. But close attention needs to be given to the ways in which young learners are equipped to attribute value and trust to the plethora of resources and information sources that new technology makes available to them.

Many current challenges and opportunities in UK education are being compiled under the umbrella term personalisation. Enquiring Minds takes the view that personalisation means a number of entitlements for children that include having their prior experiences respected, being able to take responsibility for determining their own learning priorities, having access to appropriate forms of teaching and resources to meet those needs, being able to access people who can support them, and being assessed in ways that allow them to progress and make further decisions about their future learning.

When it comes to promoting student voice, it is important that students' views are not just accommodated into existing adult understandings or accumulated in order for adults to develop better strategies for teacher-control, policing and student surveillance. Instead, student voice needs to be seen as a dialogue between co-researchers, with both students and teachers engaged in a process of change and transformation and their schools re-oriented towards person-centredness. The person-centred school is first and foremost a learning community, which addresses students' moral and interpersonal needs. The outcomes they produce are seen as meaningful to individuals and the communities in which they live, and are not just engineered by teachers to produce results.

The model of school change that Enquiring Minds appears most closely to resemble is that of 'normative re-educational', that is, a model that is value-directed – in this case, directed towards person-centredness. In terms of changing teacher and school practices, then, the usual assumptions and commitments to present ways of working need to be unlearned or unfrozen, in order that re-education can occur. Space for teachers to carry out pedagogical experiments needs to be provided to take place outside of normal support systems. School change should therefore be seen as starting from small-scale shifts in practice, with other local agents able to share and recognise what happens. Clearly, from an Enquiring Minds perspective, this also needs to involve the participation of students as agents of change alongside staff.

In summary, Enquiring Minds is setting out an ambitious stall – one whose products include a commitment to children's social and cultural worlds; which addresses the implications for education and teaching of a rapidly changing 'knowledge economy'; which takes seriously the challenges and opportunities presented by new technology development; and which proposes a model of

pedagogical innovation and school change centred around children's personal and interpersonal needs. It proposes accomplishing this by focusing on children as active agents who are able to identify problems and opportunities for research, who are able to innovate by using multiple means of exploration, data collection, knowledge management and communication, and who are able to create new knowledge that is meaningful to their own lives and to the needs of their local communities.

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### **Links to web resources**

Del.icio.us: [del.icio.us](http://del.icio.us)

Flickr: [www.flickr.com](http://www.flickr.com)

Machinima: [www.machinima.org](http://www.machinima.org) / [www.machinima.com](http://www.machinima.com)

Writely: [www.writely.com](http://www.writely.com)

Google Earth: [earth.google.com](http://earth.google.com)

Wikipedia: [www.wikipedia.com](http://www.wikipedia.com)