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# ENQUIRING MINDS INNOVATIVE APPROACHES TO CURRICULUM REFORM

## CONTENTS

Foreword .....	03
Introduction .....	06
<b>Findings</b>	
About the findings .....	13
Curriculum organisation .....	13
Practicalities .....	21
Content and knowledge .....	26
Teachers .....	31
Students .....	37
Discussion .....	41

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# FOREWORD

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## FOREWORD: ABOUT THIS REPORT

The Enquiring Minds project described in this report aims to explore how schools can change their approach to the curriculum by including the views of teachers and learners. With the National Curriculum at both primary and secondary schools currently in transition, the findings from the Enquiring Minds programme of curriculum development and research show how schools have begun to adapt to their changing role as sites of local innovation in curriculum organisation. In this report, we draw on evidence of curriculum development in 25 schools collected during 2008 and 2009.

When the programme of work with schools started in 2005, there was little to indicate that a new secondary National Curriculum would arrive in 2008 and that the primary curriculum would be under review too. The project has coincided with a range of initiatives, reviews, inquiries and renewed debates about the purposes and practicalities of the curriculum. These activities demonstrate the importance of the National Curriculum for schools, and the desire by interested parties to ensure that it best meets the needs of all young people.

Education is, though, a complex and politically sensitive arena. Some people would rather see the back of the National Curriculum altogether, and instead develop a range of diverse curricula. Others would prefer to centralise it even more, and to have the whole thing managed by government, measured according to tightened standards, and delivered through traditional, tried-and-tested methods. And for others, government has spent so much time meddling in the National Curriculum recently that its original qualities have been thoroughly corrupted.

The Enquiring Minds project has shown that there is no simple prescription for fixing the curriculum. A traditional approach works in some contexts, and not others; locally distinct curriculum approaches can accomplish some educational objectives, but not all of them. The project supports the view that a National Curriculum is necessary, and that schools need to be equipped with strategies to manage and organise it to best meet the needs of their students. The approach endorsed by the programme has been enquiry-based, with teachers and learners collaboratively negotiating the content and purposes of the curriculum to be investigated.

This report, then, does not provide a straightforward narrative of curriculum reform; nor does it supply a manual for curriculum redesign. It includes discussions of the main curriculum tensions felt in schools today, and case studies from a number of schools which have sought to begin the process of curriculum redesign for themselves. This work remains ongoing; it is still unfinished. We hope that the research we describe in this report can help contribute to these attempts to work out what a curriculum can do for the benefit of all young people.

Sarah Payton and Ben Williamson  
Futurelab, 2009

## FOREWORD FROM MICROSOFT

When Microsoft launched our Partners in Learning initiative in the United Kingdom, we partnered with organisations like Futurelab who shared our belief that innovations in teaching, learning and technology can better prepare pupils for life and work in the world of tomorrow.

Microsoft's mission is to help people throughout the world realise their full potential, and we believe that the ideas, research and methodology supporting Enquiring Minds will go a long way toward doing that for both teachers and students. In this report, you will read about the progress Enquiring Minds makes toward changing the model of teaching and learning that has existed in our schools for centuries. Allowing pupils to have a role in directing their own learning teaches them more than just facts and figures that they can apply only on standardised tests. It helps them to see the relevance of what they are learning and put ideas into different contexts, and it gives them the drive and passion to continue learning - a way of building the skills and expertise which will help them succeed in the challenging and dynamic world of their future. We are extremely proud of the work we have been able to do with Futurelab on Enquiring Minds, and we are excited to help bring these ideas and findings to more teachers.

Steve Beswick  
Director for Education, Microsoft UK

# INTRODUCTION

## CHALLENGING THE CURRICULUM

A curriculum is always a selection of the knowledge and skills that are considered important to pass on to young people. This process of selection necessarily entails that some things are included in a curriculum, while other things are left out. All of the subjects in the National Curriculum are made up of selections of knowledge from different professional disciplines. English, for example, features selections from literature, linguistics, and media studies. Science is made up of selections from biology, chemistry and physics. Geography in school features selections from both physical geography and human geography, as well as from environmental and urban studies. The National Curriculum, then, is simply a selection from what Matthew Arnold once termed "the best that has been thought and written." It is the very best of our cultural and intellectual heritage packaged as a body of knowledge which all young people, regardless of background, have equal right to access.<sup>01</sup>

But who makes these selections? What are the selection criteria used when putting together a curriculum? And is it possible to come up with a truly definitive set of curriculum selections which all young people can learn in order to thrive socially, intellectually, and economically?

Increasingly today it is argued that the National Curriculum as it has been organised since the 1988 Education Act (and, less formally, for many many years before that) has become outdated, and that it needs reforming. At both primary and secondary school levels the centrally mandated curriculum is being challenged, and schools are being encouraged to come up with more innovative ways of enhancing young people's learning. A core, nationally-prescribed curriculum selection, which young people must learn and be tested on, is itself being tested.

In the two decades since the introduction of the National Curriculum, British life has begun to change for many young people. Nowhere is this more obvious than in technology and media developments. For 11 year-olds entering secondary school in the late 1980s, the world of computers was dominated by brand names such as Atari and BBC Electron; for those entering secondary school now, computers are connected to global networks, perpetual contact can be maintained with others online and via mobile devices, music has migrated from audio cassette to CD to digital MP3 format, television and video are available online at any time, and videogames have saturated popular culture. Since the late 1990s there has been a concerted effort to ensure such changes in the technology landscape are represented in schools.

Yet at the same time as these changes have been taking place, many other things about British life and schools have changed very little. Social class and financial prosperity remain significant indicators of young people's chances of educational success or failure, and problems related to social mobility remain politically sensitive. Critics of the National Curriculum point out that it still concentrates on a core of academic knowledge that is irrelevant to many young people's lives and aspirations, and which serves to widen the achievement gap. It is claimed that it marginalises the interests of the working class and ethnic minorities, for example, while favouring the interests, values, cultures and aspirations of white middle class families for whom academic success at school is seen as a route into university and professional employment, as well as to an appreciation of culture, the arts, and so on. In an attempt to allay these concerns, vocational learning strategies are routinely proposed, and then critiqued for being insufficiently challenging or for replicating a two-tier education system akin to the grammar school and secondary modern system of the post-war decades. For many educators and education experts, then, the National Curriculum is a divisive rather than equitable tool which simply serves to reproduce existing social problems.

<sup>01</sup> Note that there is a difference between the National Curriculum and a school's curriculum. A school's curriculum includes the subjects of the National Curriculum but a great deal more besides, most notably its programmes of pastoral care.

Moreover, there is continuing disagreement about whether a core curriculum should focus on canons of knowledge from the British heritage or whether it should be open to more diverse knowledge domains, such as knowledge from popular culture or which comes from more multicultural and global contexts. Schools today thus still find themselves trying to ensure coverage from these canons (such as the historical narrative of the British Isles) whilst appealing to many young people's experiences of a modern popular culture of media entertainment and digital communication.

In attempting to make these connections, teachers have often found themselves at the centre of disputes that extend beyond educational experts and enter into the thick of public opinion. This is shown, for example, by the incredulity reported in some parts of the press when English teachers ask students to translate Shakespearean verse into mobile phone text or youth slang, or when primary schools encourage children to investigate the significance of online services such as Twitter. Political parties even develop campaigns based around protecting what they perceive as important subjects (maths, English and the three sciences are usually cited) while disparaging newer courses (the perennial punchbag is media studies).

The National Curriculum for secondary schools in England was reformed in 2008 to give schools more local responsibility and flexibility in curricular planning, organisation and management. With an enhanced focus on the aims of supporting young people to be successful learners, confident individuals and responsible citizens, it ostensibly placed less emphasis than before on the acquisition of a body of curricular content. Instead, subjects were reconceived as enhancing young people's personal, learning and thinking skills. The new Curriculum for Excellence in Scotland is based on similar aims and objectives. In addition, the challenge is for teachers, working at the micro-level of the classroom, to organise the curriculum experience for students in ways that are best suited to local context and that best enable young people to take a full part in school rather than attend it just to be filled with curricular content. The rationale for these changes is that, in order to be successful in the future, young people need the skills, competences and processes to manage their own learning and lifelong development in a changing world, and they need this more than they need a head full of facts. This does not mean that subjects and the curriculum have gone away, but schools have more flexibility in how they deliver them.

The National Curriculum ten years into the 21st century is focused primarily on the creation of certain sorts of people for a certain sort of desirable future, and it rests on the assumption that in the desirable future of a thriving economy people will need a whole raft of skills, competences and personal qualities that a prescriptive curriculum has failed to develop. Schools are being encouraged to take the aims of the National Curriculum - the creation of successful learners, confident individuals and responsible citizens - and to ensure these are developed across the entire curriculum experience.

Of course, this is not the end of the curriculum story. Education is a highly political issue, and the major political parties disagree about what the curriculum is for. For example, the Conservative party reports favouring a return to traditional methods focused on the transmission of the British cultural heritage, deep subject knowledge, and learners' access to their intellectual inheritance. Others regard the National Curriculum as in need of replacement by a core set of 21st century skills suitable to an increasingly digital age where learning how to work with technologies will be of particular importance.

This intense debate about the curriculum is at the centre of the Enquiring Minds project that is discussed in this document.<sup>02</sup> Centrally, Enquiring Minds has been concerned with changing educators' approaches to the curriculum, whilst also attempting to challenge the increasingly popular claim that the best fix is to replace it with an education focused on technological competence and information skills. This programme of research and curriculum experimentation has sought to engage with questions about the kind of knowledge which gets taught and learnt in school classrooms. It has explored how young people themselves might contribute to defining some of the content, processes and outcomes of their learning. It has asked whether it is possible to change the selection criteria for the curriculum, and to reconfigure it to take more account of the kinds of social, cultural, civic and economic lives young people are now experiencing. It has also sought to explore the consequences for teachers of making them more professionally responsible for managing the curriculum. In short, Enquiring Minds has explored the potential for changing the dominant models of teacher professionalism and for the school curriculum to be democratised to take children's own interests and contexts into consideration.

Throughout the Enquiring Minds project, we have broadly supported the idea of a National Curriculum which is under political control, and managed at the macro-level by political parties on behalf of the citizenry. It seems to us that anything as important as education or health ought to be managed by the politicians elected by the people on the basis of their promises. This is a key part of living in a democratic society, even with all of its faults. When it comes to practical organisation of the curriculum at the micro-level of schools and classrooms, however, it seems to us that teachers and even young people themselves ought to have more say. It is in the local context that any curriculum exerts material effects, and thus it should be up to local actors to shape and manage its implementation, ensuring it meets the needs of local communities and young people and that it challenges and stretches them appropriately.

Additionally, and importantly, the Enquiring Minds project has adopted the view that children and young people are constantly active in interpreting the world that they encounter on a daily basis, including what they encounter via the media. They are not passive sponges absorbing everything they encounter without thinking about it. For that reason, education system leaders should reconsider treating them as passively absorbing the content of the curriculum. Yet at the same time, young people are growing up in a world so dense with information and sources of knowledge that the education system has a duty to help them deal with it effectively. Developing knowledge in the school curriculum as it stands is a great ideal; but another ideal is for young people to make sense of a modern world on their own behalf and on behalf of the communities of which they are part, and this is an ideal for which an education in testable curricular knowledge on its own is not enough. What we are advocating, then, is an approach to curriculum which sees schools, teachers and young people themselves as active participants in the organisation of their own curriculum, based on a set of broad and nationally-agreed aims, ambitions and knowledge domains.

This report synthesises some of the main research findings emerging from the Enquiring Minds project with a series of case studies from schools that have been involved in attempts to change their curriculum. Throughout, the report focuses on what it might mean to change the curriculum selection criteria, and explains the consequences of doing so in case study schools.

<sup>02</sup> Detailed discussions of these debates, along with extensive references to the research evidence and theories, are available in Morgan, J, Williamson, B, Lee, T and Facer, K (2007) *Enquiring Minds: A Guide* (Futurelab); Morgan, J and Williamson, B (2008) *Enquiring Minds: Schools, Knowledge and Educational Change* (Futurelab), both available online from [www.enquiringminds.org.uk](http://www.enquiringminds.org.uk); and in Williamson, B and Payton, S (2009) *Curriculum and Teaching Innovation: Transforming classroom practice and personalisation* (Futurelab), available online from [www.futurelab.org.uk/resources/publications-reports-articles/handbooks/Handbook1246](http://www.futurelab.org.uk/resources/publications-reports-articles/handbooks/Handbook1246).

## AUDIENCE

This report is for teachers, school leaders and local authorities involved in curriculum innovation. It contains an accessible summary of the key findings from the research which can be used as the basis for curriculum discussions within schools and during continuing professional development programmes. Though the focus of the Enquiring Minds project has been primarily on Key Stage 3, it is hoped that the research and the case studies will be relevant to primary schools seeking to respond to the recent review of the primary curriculum. We hope that the analysis and summaries we provide can support teachers to develop their practices in response to changing curriculum strategies and policies at the national and local levels.

## WHAT THIS REPORT IS FOR

This report is intended to support teachers, school leaders and local authorities involved in planning, organising and managing new curriculum approaches. The Enquiring Minds project has devised and provided a set of ideas and resources that contribute to the re-configuration of the curriculum at a local level. It has also generated research findings that contribute to discussions about curriculum reform and the national search for innovative approaches to curriculum design and practice in schools. In this report we discuss some of the major conclusions of the four year programme of research and development, and provide case studies from schools that have been trialling new approaches to local curriculum organisation in practice. It is important to state that Enquiring Minds is not a ready-made suite of planning and teaching materials, but a set of resources and research evidence that can be used by schools to support their own localised organisation of the curriculum.

The project and this report support the view that schools can exert more authority and autonomy in curriculum organisation, that this process can involve teachers and learners as well as senior leaders, and that stimulating new practice needs to be informed by the available research evidence emerging from existing sites of curriculum innovation and experimentation. The report shows how schools have begun to take a fresh look at their organisation and management of the curriculum, and details which changes they have made to reconfigure it.

## BACKGROUND TO THE PROJECT

Enquiring Minds was a four year curriculum research and development project developed by Futurelab and funded by the global Microsoft Partners in Learning initiative. The aim of Enquiring Minds was to explore the potential for democratising the curriculum by developing a partnership approach to curriculum design that would allow young people to shape the content, processes and outcomes of their learning alongside their teachers.

During the first three years of the project, between 2005 and 2008, two researchers at Futurelab worked with teachers and students from two secondary schools in the Bristol area of the UK to develop this aim into classroom practices, and conducted detailed participant observation to understand the consequences and impact of adopting such an approach.

The findings of these initial three years of research were the subject of publications and materials aimed at supporting educators who wished to explore issues of curriculum change, school knowledge and enquiry-based classroom approaches.<sup>03</sup> This report provides a final summary of the research at the end of the fourth year of the project.

<sup>03</sup> For all details and resources see [www.enquiringminds.org.uk](http://www.enquiringminds.org.uk).

## METHODS

In the fourth and final year of the project, the project team sought to explore what impact the Enquiring Minds research findings, principles and materials were having as they were being used by other practitioners in schools across the UK.

During the period July 2008 - June 2009, interviews and discussions took place with senior management and teaching staff from 25 schools across the UK who were making changes to their curriculum and were using the Enquiring Minds research and materials to inform their curriculum planning and delivery. They were asked what national and local factors were driving them to make changes, how they were implementing change, and how the Enquiring Minds project was supporting them.

Visits took place in 15 of the 25 schools (14 secondary schools and 1 primary school). During these visits we undertook informal interviews with a total of 28 staff and 30 students from across the 15 schools. At the other 10 sites data collection took place via telephone and email. Closer contact was maintained with 4 of the 15 schools, which were visited more than once in order to complete lesson observations. Additionally, in 8 of the 25 schools Futurelab researchers worked to support the introduction of Enquiring Minds ideas in practice by holding practical workshops and training sessions with staff.

Data from the interviews and observations were analysed to draw out themes around the 'why' and 'how' of curriculum change and the ways in which the sorts of ideas which have underpinned the Enquiring Minds project are supporting these changes. The 'findings' section which now follows presents a discussion of the data. Specific school case studies of practice are included as boxed text throughout.

# FINDINGS

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## ABOUT THE FINDINGS

The findings from any research project are always the result of attempts to interpret and make sense of a complex reality. Educational research is no different. During the Enquiring Minds research project in schools, we were seeking as researchers to understand the implications of changing the organisation and management of the curriculum, and to reveal some of the factors contributing to how schools engage with curriculum change at a local level. Providing this kind of analysis is important at a time when schools are being urged to take more local responsibility for curriculum design, and to innovate with classroom practices and pedagogies.

The findings we report by no means provide a definitive explanation of curriculum change. Rather, the purpose of this section is to provide a discussion of the findings emerging from the Enquiring Minds project. These discussions are organised into five key themes: 1) curriculum organisation, 2) practicalities, 3) curriculum content and knowledge in schools, and what it means for 4) teachers and 5) students to re-consider curriculum content and approaches to teaching and learning.

## CURRICULUM ORGANISATION

Many schools are currently engaged in attempts to work out how they can manage the organisation of the curriculum at the local level, by drawing on the aims and the knowledge domains contained in the new National Curriculum. In all of the schools that have participated in the research, senior leaders and staff were beginning to engage in the process of making significant changes to the organisation of the curriculum. The motivations for these changes are complex and have both local and national influences. This section discusses the factors reported by school leaders as influencing and motivating curriculum change. It also provides examples of the sorts of curricula schools are choosing to develop as a result, and how resources from the Enquiring Minds programme are being used to support the development and implementation of these new curricula, often alongside other educational interventions.

### 21st century skills and knowledge

In terms of policy, education has become increasingly viewed as important for ensuring that the future workforce is appropriately skilled in order to secure personal, local, and national prosperity. With the decline in traditional manufacturing industries and the growth of ICT, it is often claimed that the economy is becoming part of a global knowledge economy in which information and knowledge have become commodities with greater trade and exchange value than manufactured goods. For schools this has meant an increasing emphasis on equipping students to develop 21st century skills for their future roles in the knowledge economy, including a focus on the new basics of thinking skills, learning to learn and problem solving as well as specific ICT skills, an understanding of digital media, and the ability to be creative and innovative.

With the introduction of the Personal Learning and Thinking Skills framework in the National Curriculum for secondary schools there is, for the first time, an obligation for secondary schools to focus on 21st century skills. Addressing this new responsibility was reportedly a significant motivator for curriculum change in schools in the study. Enquiring Minds was viewed by some participating staff as an attempt to put the skills associated with digital media at the heart of the curricular enterprise. Indeed, in many of the practices that have been observed during school visits, lessons have featured extensive use of computers, as teachers have sought to engage with what they perceive as students' affinity with new technology and media.

Other staff pointed out, though, that the recent emphasis on educating young people for knowledge-based work had the potential merely to reproduce the old problems with the existing curriculum. It seems to favour the interests of young people with existing aspirations to enter high-skills professional labour, and the resources and family support to get the relevant further and higher education to do so. These concerns reflect wider reported problems with the knowledge economy paradigm, especially its exacerbation of educational and social inequalities.

### Independent learning

The most dominant concern teachers report wanting to address is students' lack of independent learning skills. Being able to learn independently is itself seen as a skill that is essential for further educational attainment and future work in the 21st century.

Teachers claim that pressure to cover the National Curriculum's content in order to ensure attainment in exams has led to the development of a 'delivery model of teaching' through which pupils are 'spoon fed' knowledge. This is regarded as fostering student dependence on teachers. Secondary school teachers suggested that students lose their independence on transition to secondary school. By the time they reach KS4 they have lost all independent learning skills and have become highly teacher reliant. Many spoke of the difficulties of having to re-train A-level students who have become totally reliant on being "filled up with facts" by their teachers and who struggle when encouraged to ask questions, research information for themselves, be critical and work independently.

The enquiry-based learning approach advocated by the Enquiring Minds project was seen by these teachers as a way of supporting students to become more independent. By gradually taking more responsibility for the content, processes and outcomes of their learning and through undertaking their own research into an area of interest to them, teachers felt that students could be supported to become progressively less teacher reliant.

### Research skills

The growth of digital technologies in all walks of life, from working and playing to learning and socialising, has meant that knowledge and information are now more accessible than ever. At school, the sanctity of the classroom textbook, with its carefully composed content and its claims to authority and veracity confirmed by its publication and its material book format, is challenged by digital media resources which may offer very different accounts or interpretations of the same data. Therefore, being competent in searching for information is seen as one of the essential skills of being an independent learner in the 21st century. In addition to skilled information searching, though, young people need to become more skilled in evaluating the knowledge they encounter, and in discriminating between diverse sources of knowledge.

Despite the enthusiasm of some commentators, who view digital media and technology as uniquely liberating and creative, with the potential to transform the ways in which teaching and learning are organised and take place, these changes do bring with them particular challenges for the curriculum that are not necessarily always beneficial.

Thus, young people are often assumed to be digitally native; they have grown up with digital technology and as such are expected to bring a wealth of ICT skills into the classroom. However, teachers frequently reported that, although students appear confident in using search engines, they were lacking the competence in research skills needed to locate relevant information on the internet.

Students also often found it difficult to work out whether the information they had located on websites they did not recognise could be trusted. More prosaically, many students carrying out enquiries involving web searches found that there was a real shortage of resources produced and written to make sense to their age group.

In addition students were lacking in confidence and competence when searching for books in the school resource centre or library, often resorting to simply browsing the shelves rather than being specific about the information they required and using the library classification system to find relevant material.

Teachers who successfully addressed these issues explicitly taught internet research skills, encouraged students to try using more than one search engine and arranged for small groups of students to have library skills sessions with resource centre managers. They reported that students were subsequently better able to undertake independent research.

## Competences

In order to address concerns about preparing students for the future, many secondary schools have adopted a skills-based curriculum such as Opening Minds, developed by the Royal Society for the Encouragement of the Arts, Manufactures and Commerce (RSA).<sup>04</sup> Opening Minds aims to provide students with the skills required for modern-day life, learning and work in an information-dense world.

An Opening Minds curriculum is organised into themed units of work. Through these units, students are taught and assessed in a number of competences, defined as abilities to understand and do, and the skills needed to prosper in the modern knowledge economy. These are grouped under the following headings: learning, citizenship, relating to people, managing situations, and managing information.

Five of the schools we visited had their own skills and competences curriculum which they reported was developed from RSA Opening Minds materials. In four of these cases an enquiry approach to learning, based on the Enquiring Minds research was being used within the curriculum to develop the skills of enquiry, collaboration and independent learning. In the fifth case, enquiry-based learning was introduced to Year 8 students after their Year 7 competence based curriculum.

### ST. PHILIP HOWARD CATHOLIC SCHOOL

#### A competence curriculum to foster team work and enquiry skills

St. Philip Howard, a Catholic High School for 11-18 year-olds, one of the QCA partner schools for piloting the new Key Stage 3 curriculum, has developed its own 'competence curriculum' based on some of the principles of Opening Minds and Personal, Learning and Thinking Skills (PLTS) and using "Enquiring Minds research at the heart of the thinking".

Following the introduction of the new Key Stage 3 curriculum which Steve Williams, Assistant Head in charge of Teaching and Learning, feels gives educators the "authority to have a curriculum that's right for your children", the school has decided to devote 20% of the Year 7 curriculum, one whole day a week, to its skills-based curriculum. Teachers based the new curriculum on three priorities: to improve self-motivation and independent learning skills, to improve team working, and to develop social and emotional literacy.

#### Enquiry within a competence curriculum

Co-operative learning is described as the heart of the school's competence curriculum, which has seen Year 7 working together in small groups to become involved in enquiry-based learning with a focus on developing competences and skills of team work and collaboration. Some activities have been more directed than others but students have been given the space to "take the learning where they want" as much as possible. For example students were given a choice of themes in which to undertake an enquiry. Once each group had chosen their theme they were supported by teachers to identify a question for their enquiry using activities found in the Enquiring Minds guide. Students were also given the responsibility to decide how they would present the outcomes of their enquiries to each other. Choices ranged from making booklets to using software to create radio plays and making short films.

<sup>04</sup> For further details see [www.thersa.org/projects/education/opening-minds](http://www.thersa.org/projects/education/opening-minds)

### Evidence of impact

The school has responded to the need to provide evidence of impact by designing a new assessment strategy to complement rather than shape its new curriculum. This led teachers to develop their own 'skills chart' as a way of students self assessing their progress in the PLTS. They also have used still and video cameras to capture images of the students working and then used them to promote discussion about how well the groups were working as teams. This was documented in a Teachers TV video titled Capturing the Impact, available from: [www.teachers.tv/video/33482](http://www.teachers.tv/video/33482).

[www.st-philiphoward.w-sussex.sch.uk](http://www.st-philiphoward.w-sussex.sch.uk)

### A high-tech curriculum

Many of the practical interventions observed and reported during the Enquiring Minds research demonstrate how teachers have been actively attempting to negotiate a debate about the role of new technology and digital media in the school classroom and curriculum. This has involved balancing their concerns about a prescribed content curriculum with their concerns about a technology and skills-based approach to learning.


Indeed, a largely neglected concern in much recent educational commentary is that students need knowledge about technology and media in order to be able to make skilful and informed use of it, not just the relevant skills of using technology and media. Knowing how technology and media work from a technological perspective is important, as is recognising how they contribute to culture (art, music, broadcasting and film), and providing opportunities for new forms of communication. Additionally, it is important for young people to understand the role of businesses, broadcasters and publishers in creating and distributing media content. This is important not least because young people today will grow up gaining knowledge through accessing information from the media as well as from formal educational institutions throughout their lives.

In some cases in the project, teachers were involved in specific programmes of work which sought to support the development of students' information management competences in order that they would become more skilful in dealing with content. Rather than choose one approach to the complete negligence of the other, though, participating teachers have often been seeking to forge meaningful connections between students' need for content and their need for competence with the tools and resources available via digital technology and media. This means developing the processes and skills to be able to access and interpret content and form lasting knowledge, as well as developing the knowledge required to make informed sense of a world in which information is increasingly up for grabs and knowledge is not gained only from authoritative textbooks.

Rather than reconfirming a simplistic notion that the traditional curriculum can be replaced with a 'high-tech curriculum' the study has begun to demonstrate teachers' need to balance content and knowledge with skills and competences.

### Disengagement and attainment

Some school leaders in the study stated that they were initiating curriculum change in order to address issues of low attainment in their schools which they attributed to disengagement. For example, they spoke of concerns over increasing numbers of students being "switched off" from learning. They questioned the relevance of the National Curriculum for young people today and saw a gap between the faster paced, media and technology saturated lives of the young people they taught and what they were able to offer them in school.



“Enquiring Minds lessons help motivate pupils by focusing their learning on things that interest them”

“It gives me, as a teacher, a lot more options, enables the students to have more input into their lessons and is really exciting to teach”

These teachers saw curriculum change as an opportunity for school to re-appeal and make more sense to disengaged students. One national challenge school, for example, wanted to develop a fresh approach to teaching and learning in order to re-engage pupils via a pupil-relevant perspective with the ultimate aim of increasing the desire to learn and, therefore, attainment.

Taking an enquiry-based approach, it was thought, could counter student disengagement and raise attainment by creating greater coherence between students' own contexts, interests and experiences and the responsibilities of the school. This was confirmed in interviews with students, who claimed to be turned off learning by perpetually following teacher instructions, though this was not, of course, shared universally by all participating young people. Neither has the project team nor the participating teaching staff been able to make causal links between the approach and increased attainment.

## ASHTON PARK SCHOOL

### Valuing students' contexts

Ashton Park School in South Bristol was one of the schools that worked with Futurelab to develop the Enquiring Minds project. Assistant Head Steve Moseley and his teaching team have spent four years developing an enquiry-based learning approach that takes place in discrete weekly sessions for Year 8 pupils.

The school has a competence curriculum based on Opening Minds in Year 7 and, in Year 8, students have between two and four 50 minute periods per fortnight of 'Enquiring Minds'. In addition the school decided that the 'nurture group' of Year 8 students who have low levels of ability in literacy, would benefit from more enquiry-based learning and they now have eight periods per fortnight.

### Students' contexts

For the senior management at Ashton Park, the main reason for developing Enquiring Minds was to engage with their students' contexts and, in doing so, develop a greater enthusiasm for learning. The majority of the school's intake come from a working class background and families that have been living in the area for several generations. Traditionally, in these communities, wealth and achievement has been linked to careers in manual employment and, as such, there has not been a huge emphasis on educational attainment being necessary for job prospects and prosperity. Research conducted by a local university has confirmed that educational aspiration in the area is linked to the assumed availability of well-paid employment with low qualification barriers to entry.

However the school staff believes that it is preparing young people for a different world, one in which traditional employment opportunities in the area may decline. As such senior management want to develop approaches to engage with the young people's lives and make education relevant to them. As Steve Moseley says,

"Enquiring Minds lessons help motivate pupils by focusing their learning on things that interest them."

Ashton Park staff have to work hard to ensure all pupils achieve five A\*-C grades at GCSE. The senior management believe that by engaging their students through enquiry-based learning in Year 8, which was traditionally a year in which students' motivation and attainment "slumped", they are developing in them a desire to learn in later years.

In addition to those pragmatic concerns driving curriculum change at Ashton Park, Headteacher Chris Gardner explains that the pupils quite simply enjoy enquiry-based learning and that is of similarly high importance to him and his staff.

Over the four years the school has been developing an Enquiring Minds approach to teaching and learning, the common challenge reported by all the teachers who have been involved is the change in their classroom role and the style of teaching required to make a partnership curriculum a success. "Enquiring Minds is about discussion, listening and reacting" explains Steve Moseley. "Some teachers like to deliver lesson plans - Enquiring Minds is about reacting to what happens on the day."

He believes that a "good" Enquiring Minds teacher needs to acknowledge and respect student's contexts and quite simply needs to be "into kids". He says that teachers need to be interested in friendly discussion with students and allow them to explore and learn about issues pertinent to their lives.

[www.ashtonpark.bristol.sch.uk](http://www.ashtonpark.bristol.sch.uk)

### Cross-curricular and themed approaches

Cross-curricular teaching and learning sessions in which the subject knowledge of more than one traditional discipline is addressed through themed learning is one way in which schools have attempted to make the curriculum seem more joined up. By linking subjects together and making explicit their collective relevance to a certain topic, the idea is that the curriculum is made more accessible to students.

Themed cross-curricular or topic-based thematic teaching has traditionally been seen as a primary school approach. Indeed the one primary school in the study was using a topic-based themed approach in which groups of Year 6 students developed their own theme park. This term of work incorporated aspects of almost all subjects in the primary curriculum.

Cross-curricular teaching is beginning to be introduced in secondary schools, with teachers developing the approach in varying degrees as part of the wider picture of curriculum change. In one study school, for example, a cross-curricular approach was developed within the Design and Technology department. Although the subjects of the department were still taught in separate lessons, all the lessons for Year 7 were linked by one theme. In another school the whole of the Year 7 curriculum was cross-curricular, with a number of different themes throughout the year such as 'The Egyptians', 'Transformations' and 'Our Local Community'.

Advocates of this approach reported that students found their learning experience less silo-based and more joined up, which in turn led to an observed increase in engagement. However, some teachers reported that they struggled with trying to make artificial links between aspects of subjects that appeared to have little logical connection or coherence with each other.

### Schools as sites of local curriculum innovation

In interviews conducted during the Enquiring Minds study, teachers and school leaders said they felt that recent reforms to the National Curriculum provided them permission to be more creative and flexible in devising a local curriculum. They welcome the increased opportunities this affords them to consider the personal needs of their students.

All the schools in the study were in the process of making changes to the way in which their curriculum was organised and in the majority of schools these changes were being introduced in Key Stage 3. There was no school in the study that had undertaken to change their entire school curriculum. Changes were being introduced to year groups or key stages, with further changes throughout the school being planned for the future.

All the schools reported undergoing these processes of curriculum change for one or more of the reasons discussed in this section: to improve the learning experience for their students, to address their concerns about the preparing students for the future, to attempt to re-engage students in the learning process, and to meet targets for increasing attainment.

There were certain similarities in the ways in which schools chose to address these concerns, for example, through skills-based curricula, cross-curricular teaching and enquiry-based learning. However, the resulting new curricular arrangements in the 25 schools were all very different from each other. Each was developing its own tailored approaches to curriculum redesign; each school had become a site of local curriculum innovation.

In all the schools, staff who were involved in devising these local curricula indicated they had researched a number of educational interventions or alternative approaches to teaching and learning. They had then used the principles and ideas from one or more of those initiatives in order to devise a curriculum they felt best supported their students.

In all cases in which curriculum leaders reported having used the Enquiring Minds research and materials in the process of developing new curriculum ideas and approaches, enquiry-based learning was being used alongside approaches based on other initiatives such as the RSA's Opening Minds or Building Learning Power. In two cases separate approaches were used with different year groups, but in the 23 other schools the curriculum that had been developed drew its influences from more than one source.

Of those 23 schools, there were no cases in which any of the educational interventions were being used in the classroom in their purest form. Rather, schools had devised unique curriculum experiments underpinned by the principles, ideas and approaches of a number of initiatives. None of them would describe their revised curriculum practices as complete; all of them remain ongoing experiments. In effect, schools have adopted in practice the suggestion in recent project documents that they should become locally creative in curriculum redesign. Rather than following any particular project advice, they have tended to adopt and adapt the aspects of projects which best serve their needs.

To date, there is no freely available litmus test for schools to evaluate the long-term success of these innovations. Clearly, in order for schools to demonstrate the effect of their efforts with the curriculum, they will need credible evaluation criteria that extend beyond examination pass rates, and which allow for local variety.

## **NETHER STOWE HIGH SCHOOL**

### **A skills-driven creative curriculum**

Staff at Netherstowe School, a specialist mathematics and computing college devised a new 'creative curriculum' for their Year 7 students. Mary Evans, Head of Year, explains why the school staff decided to introduce changes to the curriculum:

"We were concerned that there was a decline in our Contextual Value Added score despite a rising percentage in the number of students gaining 5 A\* - C at GCSE. I was equally concerned that, on transfer to secondary school, many students lost their independence as learners and that meant that, by the time they reached Key Stage 4, we felt that we were spoon-feeding them – we seemed to be doing all the hard work! Subsequently, when the students went into the Sixth Form, they had to become independent learners again but did not have the skills, so we felt that a radical re-think was needed in order for all of our students to be self-motivated, enquiring, creative and organised in terms of their learning. Further, knowing that the curriculum was due to change, I looked to use the Enquiring Minds framework to support the 'creative curriculum' I was putting together."

In devising the 'creative learning program' at Nether Stowe staff drew on Enquiring Minds research along with Opening Minds, Personal Learning and Thinking Skills and Building Learning Power. It is also underpinned by the DCSF's Social and Emotional Aspects of Learning (SEAL) outcomes. Enquiry-based learning fits into this new curriculum in the summer term of Year 7 and it is intended that it will continue into Year 8 and beyond. Says Mary,

"the plan is to spread enquiry-based learning across the whole school through the effective use of tutor periods, staff training and collapsed curriculum days".

The focus of the 'creative learning curriculum' is very much on improving learning and thinking skills. Nether Stowe's Year 7 children have four hours of 'creative learning' per week and skills such as effective library and internet research, are taught explicitly. The students are then encouraged to use those skills across the curriculum – which staff admit has had varying degrees of success in this first year as teachers of other subjects are only just beginning to be explicit about the learning processes.

The school carried out two surveys of the whole Year 7 Group – once in the autumn term and once in the spring term. Students were asked to rate their experience in terms of their 'creative learning' lessons and also in terms of their experience across the whole curriculum. Mary explains:

"The students voted overwhelmingly in favour of the approach found most often in their 'creative learning' lessons".

[www.netherstowe.staffs.sch.uk](http://www.netherstowe.staffs.sch.uk)

## PRACTICALITIES

Conventionally, the curriculum is arranged as a number of discrete subject lessons timetabled throughout the school day, each of a specific block of time. In schools space is most often arranged so that students sit down at desks in classrooms, while the teacher spends most of the lesson at the front of the room, controlling the use of resources by students, managing the production of outputs, and structuring the use of language, for example through the use of probing questions, organising discussions or giving direct instructions.

The Enquiring Minds principles advocate students taking more responsibility for the content, processes and outcomes of their learning. This demands a rethink of school practicalities in order to allow students some control over the time taken for tasks, the space to work in different configurations, the provision of resources and the contribution to classroom language.

In introducing any changes to the curriculum schools have had to consider the practical implications of new approaches to teaching and learning on school time, space, resources and language. This section reports the ways in which schools in the study have managed the re-arrangement of these practicalities, and a series of observed and reported consequences of the various arrangements are discussed.

### Timetabling

The main practical challenge schools reported facing when developing new curricular approaches was deciding how school time could be re-organised.

All except four out of the 25 schools in the study chose to introduce their new approaches in discrete sessions rather than within existing subject provision. This meant space needed to be found in their timetables which were traditionally arranged around subject disciplines. Schools managed this in three ways: through discrete lessons, weekly extended sessions, and termly extended 'collapsed' time.

**Discrete weekly lessons:** Schools that opted for this arrangement freed up time from other subjects for a particular year group or key stage and timetabled a set number of periods per week/fortnight for their new approach to the curriculum. In one school, for example, Year 8 students had a minimum of two 50 minute periods per fortnight of enquiry-based learning.

**Weekly extended sessions:** Some schools gave whole year groups an extended period of 'off timetable' time per week for a new program of learning. For example in one school Year 7 students had one whole day per week devoted to the new curriculum of which enquiry-based learning was a regular feature. In another variation on this model Year 8 students had one afternoon set aside a week in which they experienced several different approaches to teaching and learning across the school year, with a set number of weeks being allocated to each approach. For example, enquiry-based learning was taught for six consecutive afternoons in the summer term. This modular approach allowed the school to focus on the development of skills attributed to different modes of learning, including the skills of creativity, of logical thinking and planning, of questioning and problem-posing through enquiry, and of managing and evaluating information.

**Termly extended collapsed time:** In this arrangement one or more new approaches to teaching and learning were introduced to whole year groups on 'off-timetable' days, a series of consecutive days or even a week organised at regular intervals throughout the school year. One school, for example, had one off-timetable day each half term for all Year 7 students. Three of these, two in the spring term and one in the summer, were allocated to an enquiry-based approach to learning.

### Continuity

In discussing the impact of these practical arrangements of time, teachers' main concern was the continuity they afforded students and themselves.

The rationale behind the Enquiring Minds project was to provide students progressively more and more responsibility for their learning. Organising the timetable so that new approaches take place weekly was reported to have the advantage of ensuring progression and continuity for students and teachers. Students can more easily remember their research and engage with their enquiries when they have weekly sessions. Teachers' planning can also take into account a whole school year, ensuring progression in levels of responsibility offered to students.

Ensuring continuity was seen as a challenge in schools using the termly extended collapsed arrangement. Adopting a new approach to the curriculum involves the development of new skills by both teachers and students. Teachers reported that it was harder to maintain the development of these skills when sessions were separated by several weeks. In addition, in most schools termly off-curriculum or off-timetable days were organised for one year group only. In schools which did not also free a group of teachers up for that day, continuity suffered as different teachers came and went throughout the day in order to continue their subject teaching with other year groups.

### Resources

Different configurations of timing each offer opportunities and challenges for access to the resources needed to support learning.

In the sorts of approaches developed during the study, where students have some responsibility for choosing the content of their learning, some topics students wish to research cannot be covered by traditional school resources such as textbooks and school library books. This has entailed a heavier than usual reliance on the internet for research purposes.

Schools using the whole collapsed days model with a whole year group off timetable on the same day have been challenged by the sheer number of students needing access to computers at the same time. In one school, the lack of access to the internet for all students meant teachers asking students to research in their own time. The result of this was that approximately half the students had no material for the next whole collapsed day.

Where teachers managed this issue better there was careful planning to ensure all students could access other resources such as books and magazine articles as well as the internet. In addition students were supported to consider their area of interest in advance of the collapsed day and given responsibility for gathering some of their own resources.

In schools where enquiry-based learning took place in discrete, regular, weekly lessons, with different groups of students working on their enquiries at different times, staff were more able to arrange for access to computers when needed.

The Enquiring Minds materials suggest use of a wider range of resources to support learning including the local environment and other adults, such as local experts. Teachers reported that although whole off-timetable days for whole year groups put a strain on access to the internet, the extended time available allowed them to invite members of the local community in to speak with the students or arrange a trip out of school.

The challenge with resourcing these types of enquiry-based approaches is that teachers are less able to provide texts and other resources in advance. Rather, resources are to be located by students themselves, using their skills in information searching and management in multiple media formats (from print to electronic), or of practical data collection (for example, through devising statistical data collection tools). Since a curriculum relies on its resources in order to ensure the transmission of content, this shift in approach has required staff to ensure that as many options as possible are available for students.

While the resourcing of enquiry-based learning therefore extends beyond subject-specific textbooks, it is important to note that it can still include subject-specific textbooks, just as it can include subject-specific teaching, tasks and products. School subjects are themselves rich resources to be explored and put to use by students.

### Space

In secondary schools space is often arranged so that students sit in rows, facing the teacher, who is at the front of the room. Enquiry-based learning approaches in which students work collaboratively in groups demand a more flexible vision of classroom space.

This practicality has proved challenging for some teachers and pupils. In a discrete weekly lesson configuration, it is likely that the teaching and learning space will be set up in the traditional manner from the previous lesson. Moving tables and chairs can be time consuming and may not seem worth the disruption if the lesson is a single period because the furniture will have to be moved again at the end of it. Some teachers have overcome this challenge by booking time in the school's resource centre for lessons in which students need to be working in groups or by allowing groups of students to work in spaces outside the classroom.

### Enquiry and subject teaching

Using the Enquiring Minds resources specifically to plan for new approaches to the curriculum within subject teaching rather than in discrete sessions, proved to be the least common option for the schools in the study.

In the two schools in which teachers chose to develop an enquiry-based approach within their subject, lead teachers undertook pilots within one area of learning. These teachers then fed back to other members of staff who decided to use some of the principles in their teaching.

Teachers' main concerns have been around ensuring curriculum coverage and developing a shift in thinking about the collaborative learning of the class as well as the facts recalled by each individual.

“The students voted overwhelmingly in favour of the approach found most often in their ‘creative learning’ lessons”

“I am constantly planning lessons that I think will be relevant to my students, but I’d actually like to involve them, to find out what really does interest them”

“My other classes have definitely benefitted from me teaching in this way. It’s helped me to have more discussions in other lessons and to give my students more creative freedom”

From the approaches of the schools in the study, it is clear that alternative curricular approaches can be organised in many different ways. Overall, however, the programming of the school initiatives reported here has tended to isolate them from other subjects. In none of the schools was there a concerted effort to ensure that the skills and aptitudes of enquiry-based learning, information management and so on were embedded across the routines of the school. While certain teachers did report that they had imported aspects of these initiatives into their subject teaching, these were individual examples and not endorsed systematically across any one participating institution. This is to be expected in the early stages of innovation.

The next development will be to understand how such initiatives can begin to exert effects on the wider routines of schools. This does not only imply applying the skills of enquiry to problems within subjects, but of reconsidering the organisation of subjects. Indeed, developing such initiatives in this way will demonstrate the importance of school subjects being seen as rich and ever-growing sources of knowledge, with associated adult experts trained in supporting students to understand them. It will challenge the idea that subjects can be sustained as stable and fixed bodies of content which can be packaged tidily by curriculum developers, mandated by government and delivered to students through a set of fixed routines in the classroom.

## ANSFORD COMMUNITY SCHOOL

### Using enquiry-based learning within Design Technology

In the academic year 2007/2008 Heads of Faculty at Ansford School met to discuss how their curriculum could be developed to empower students by allowing them more ownership of their learning and decrease dependence on teachers by supporting independent learning skills.

Alyson Evans, Head of the Design Technology Department, and Deputy Head Liz Martin decided that developing Enquiring Minds principles within subject teaching would begin to address these aims by giving students some control over the content of their learning. As Alyson put it:

“I am constantly planning lessons that I think will be relevant to my students, but I’d actually like to involve them, to find out what really does interest them.”

Alyson ran a small pilot in her graphics lessons with Year 7 and Year 8 students, feeding her experience back to her team.

Students worked in groups on a themed enquiry called ‘To Boldly Go’. The brief was that the earth has become too polluted for humans to live on, so there was a need to move the species to a new planet. The classes began working collaboratively to generate questions on a ‘wonderwall’ (an activity featured in the Enquiring Minds guide) about what people would want and need in order to survive on a new planet. Working in groups they then devised a planet, researching questions about what life might/should/could be like there. They presented their research in the form of a marketing pitch for their planet to the rest of the class via an advert (tv/radio), newspaper article, posters and leaflets.

Alyson has found that using some of the Enquiring Minds principles within her subject teaching gave her more freedom within the subject. She claims:

“It gives me, as a teacher, a lot more options, enables the students to have more input into their lessons and is really exciting to teach”.

She admits that balancing the demands of having to cover certain curriculum content with allowing her students to explore was, at first, challenging. It required her to be flexible and to think much more about her own subject within the context of her students’ lives and how it relates to other subject disciplines.

“There have been lessons where we have gone completely off on a tangent and I need to remember to allow for this and link it to my subject area”, she explains.

From September 2009 teachers in Alyson’s department will be developing enquiry-based learning in Year 7 with each subject working within the theme ‘To Boldly Go’. Textiles lessons, for example, will involve working collaboratively in groups to research and design a multi-sensory flag for the new planet. In design, students will use Computer Aided Design to devise a vehicle for travelling around, researching the implications of their chosen terrain on mobility.

[www.ansford.somerset.sch.uk](http://www.ansford.somerset.sch.uk)

## CONTENT AND KNOWLEDGE

In the Curriculum Organisation section, we discussed how, in part, schools viewed Enquiring Minds as a contribution to the kind of school change that is necessary to ensure the development of students’ 21st century skills. However, teachers and school leaders suggested that, in addition to these pragmatic motivations for curriculum change, they were seeking to address issues around curriculum content and the sorts of knowledge that students learn.

The entire Enquiring Minds project is centred on the debate about the knowledge that constitutes the content of a curriculum. Rather than settle for an approach which sees knowledge being acquired by students as tidy subject bundles, handed down from one generation to the next, the project was intended to explore a different approach to the acquisition of knowledge. In particular, the research was interested in how schools could develop students’ abilities to construct knowledge through the processes and skills of enquiry-based learning.

Underpinning the project, then, was a very deliberate decision: to see knowledge as something that is continually being created and contested, and to try to work out if a school curriculum could reflect this understanding about knowledge rather than reproduce the notion that knowledge is available in neatly defined packages. This reorientation of knowledge recognises both that young people will increasingly encounter knowledge from diverse sources in a digital media landscape - and need to know how to deal with it - and that subjects and disciplines are constantly changing as people work within them. It reflects the reality that knowledge is fluid, and not perpetually fixed, and makes this reality a part of the curricular experience for young people.

### Content and skills

Some teachers expressed concerns about the new emphasis on students learning 21st century skills, specifically about the consequences of focusing purely on the skills and competences needed for learning without addressing the content of the curriculum. As one head teacher put it: “I am very suspicious of decontextualised skills programmes.”

These teachers felt uncomfortable with the idea that a focus on skills development could lead to content becoming less important than process. They held a belief that the two could and should be addressed together; that students needed to address the ‘what’ as well as the ‘how’. These teachers felt that the Enquiring Minds principles supported them in planning an approach that gave students an opportunity not only to study issues pertinent to their lives but also to actively and critically engage with knowledge.

## Young people's cultures

Traditionally the National Curriculum has been composed of a core of academic knowledge decided by subject experts. Critics point out that its content focuses on canons of knowledge from British heritage; the sorts of facts that are valued by a select body of the middle classes. As such, the National Curriculum is seen to shun other forms of knowledge that are relevant in the present-day lives of young people, such as that of popular culture. This is what the educational sociologist Stephen Ball describes as the "curriculum of the dead":

a curriculum suspicious of the popular and the immediate, made up of echoes of the past voices, the voice of a political and cultural elite; a curriculum which ignores the past of women, the working class and the colonised.<sup>05</sup>

Enquiring Minds questions the dominant curriculum framework and argues for a more egalitarian curriculum which has greater connections with young people's lives, one in which content is negotiated and one that takes into account non-traditional school knowledge and the experiences of the learners in the classroom. This goes beyond simplistic notions of ensuring relevance in terms of engaging students' interest: it recognises that the school curriculum is a mandated selection which, for political reasons, includes knowledge from some cultures while excluding others. The challenge for school teachers is to make the connections between these different knowledge domains: between the knowledge gained from the local cultures of children, the popular culture shared through the media, the cultural heritage of the nation, global cultures and so on.

Thus, several teachers and school leaders in the study questioned the relevance of the National Curriculum for their students. Specifically, staff at two secondary schools, both of which were in national challenge measures, spoke of concerns over the lack of significance of curricular knowledge based on the cultural heritage for students who came from working class communities where unskilled, low paid jobs were the established norm. These teachers felt that these young people were, in effect, being excluded from learning by a system that continued to try to deliver a traditional curriculum that had little or no bearing on their lives, concerns and interests and perceived or aspirant futures.

In these schools, senior staff felt it was necessary for curriculum change to allow students some say over the content of their learning, for curriculum innovation to take account of students' social, cultural and economic experiences. As one put it, we need to "appreciate our students' contexts."

When discussing the topics they had chosen to learn about, students frequently cited aspects of their lives outside of school as motivation for their choices. This ranged from the Year 8 boy who chose to investigate how he might run a tropical pet shop because he kept lizards at home, to the 13 year-old girl who became curious about the different natures of cancer and HIV, after her grandfather died of cancer. Another two students chose (and were carefully supported by their teacher to investigate) drug abuse and teenage knife crime because between them they had a family member who had been a drug user and a relative who was in prison after a gang related incident involving a knife.

These students were engaging with knowledge beyond the traditional curriculum. In being allowed to develop the content of their learning these students' contexts, concerns and interests were valued as worthy of exploration in the classroom. For teachers the task was to enable students to work on and extend their knowledge in these areas, to make connections with aspects of subject disciplines (for example, by doing statistical analysis on crime data available online; by collecting and interpreting press accounts of the crime 'epidemics' and so on), and to ensure throughout that the students were making links between their own personal and cultural experiences and the knowledge and skills that the school curriculum provides for them.

<sup>05</sup> Ball, SJ (1994). *Education Reform*. Buckingham, Open University Press

“How can we revise and develop a complementary curriculum to better equip our students with the skills needed in the 21st century?”

“This sort of teaching is valid and useful, it opens students’ minds to world around them, they need to engage critically with the world”

### Critical engagement with knowledge

The Enquiring Minds principles aim to support young people not only to have a voice in the content of their learning but to develop the critical thinking frameworks that enable them to ask questions about their lives and understand that they are influenced by powerful political, social and economic factors. Underpinning the Enquiring Minds study is the understanding that young people's lives are affected by these factors, but that young people also have the capacity to make decisions about their own lives. Thus, the kind of enquiry-based learning advocated through the study involves supporting young people to make informed sense of the way the world around them works. It neither assumes that young people are passive in the face of exploitation and manipulation by larger forces; nor that they are automatically competent in the skills required to make sense of such a contemporary reality. Instead it assumes that young people have the capacity to make informed decisions for themselves and on behalf of others, and that the purpose of education is to equip them to do so with increasing competence and confidence.

As well as the merging of students' interests, experiences and knowledge with subject knowledge the project sought to engage students in asking critical questions about knowledge, who produces it, who it is produced for and what forces might be at work other than those which are immediately obvious.

Developing critical thinking in the classroom was a challenge for the project. Teachers commonly reported wishing to develop independence in their students but few suggested they had focused on critical thinking in the classroom. For those teachers who did begin to develop those skills, there were challenges involved; these are discussed further in the Teachers section.

Some teachers did speak of the value they saw in trying to support students to become critical knowledge producers, and one said:

"This sort of teaching is valid and useful, it opens students' minds to world around them, they need to engage critically with the world".

He went on to explain an incident in which a group of students wanted to look at "silly signs" they had found on an internet site. He describes how at first the students thought it would annoy him and presumed he would not see the value in it as a topic of study. However, he took them seriously and explained how he tried to

"nudge them towards thinking about the culture of signs, about who produces them, why they are there and what the messages are".

Some critical thinking was evident in discussions with students whose teachers had attempted to foster a culture of questioning and debate in the classroom. One Year 8 student for example was studying an unsolved crime mystery. Whilst explaining what she had found out to a researcher she was careful to point out that what she had gathered were opinions, not facts. She was able to question motivations, discuss the reasons people held differing opinions and was determined that in her presentation of her research to her peers she was

"going to allow the audience to make up their own minds, not tell them what to believe".

## THE ROSELAND COMMUNITY COLLEGE, CORNWALL

### **A curriculum that fosters enquiry, questioning and critical thinking about knowledge**

From June 2008 to July 2009 The Roseland Community College, a rural secondary school, undertook a process of Key Stage 3 Curriculum redesign that started with a period of methodical research and consultation with staff, students, governors and parents.

Alison Buscombe, teacher at The Roseland, documented the process in a report. She explains that:

“with the implementation of the personalisation agenda, the 14-19 Diplomas and the new KS3 curriculum in 2008, it was felt that the time had come to look at the KS3 curriculum in more depth and begin a programme of review and redesign to ensure that the students are developing the broad range of skills that they need”.

A small working group of staff undertook research to address the key question:

“How can we revise and develop a complementary curriculum to better equip our students with the skills needed in the 21st century?”

The working group researched students experiences of the curriculum, interviewing them and their parents, visiting feeder primary schools and shadowing some Year 7 students for a school day.

Two major findings were evident to the team. Firstly they discovered that the Year 6 pupils in the local, feeder primary schools were given more responsibility for their learning than they were in Key Stage 3 and as a result students were losing a sense of independence in Year 7. Secondly they found that a Year 7 student’s typical day was “very varied, exhausting and saw a range of teaching and learning styles being shared”. They concluded that it would be beneficial to focus on improving continuity between subjects, cross-curricular links and developing transferable skills.

Staff at The Roseland agreed that as well as developing the skill of independent learning they wanted their students to engage critically with knowledge. They decided to use the Enquiring Minds materials to underpin the design of a new curriculum after identifying that:

Enquiring Minds focuses on developing skills of enquiry and allowing students to take responsibility for the outcomes of their learning using students’ interests as the starting point. Enquiring Minds encourages students to develop skills which they didn’t previously have, as well as seeking new knowledge around the subject.

The teachers hope that this new approach to the curriculum will provide opportunities for increased student motivation and aim to encourage students to become critical about their own knowledge, sources of knowledge and their research (something thought by the school to be particularly important for the 14-19 diplomas):

In providing a curriculum that encourages skills of enquiry, skills of questioning and critical thinking as well as furthering knowledge, students should be much better equipped for the future.

[moodle.theroseland.cornwall.sch.uk/site](http://moodle.theroseland.cornwall.sch.uk/site)

## TEACHERS

Teachers are at the sharp end of school change; it is teachers who interpret and shape innovation and interventions. In all the schools in the study, curriculum change required an adoption of new approaches to teaching and learning in the classroom. As a result, teachers reported changes to their classroom role and their relationships with their students and they experienced challenges to their sense of their professional identities. During the fourth year of the project researchers worked alongside teachers as they began to incorporate the principles of critical enquiry into their curricula. Informal conversations took place between them and researchers before and after lessons, they were interviewed, and in some cases selected lessons were observed. This section is a discussion of the teachers' experiences of curriculum change in relation to their sense of professionalism, their practice, the challenges they faced and the issues that have been raised for further developments in the curriculum.

### A new classroom role

Enquiring Minds advocates developing a partnership approach to the curriculum in which students and teachers are involved in a process of negotiation over the content, processes and outcomes of learning. This involves a shift from the traditional roles of teacher/student, adult/child in the classroom which are enshrined in longstanding notions of the authority of adults over children. Indeed, at a time when many young people are more confident and experienced in the use of ICT than their teachers, there is a very real disruption to existing notions of authority and expertise in the classroom.

In developing pedagogical partnerships with students, a teacher's role changes from one of expert transmitter of subject knowledge to a more reactive role, one that is responsive to the needs and interests of students.

"Enquiring Minds is about discussion, listening and reacting. It's very reactive," said one secondary teacher. "This is a different role, of listening to them more."

Students too, noted this change in role, suggesting that they perceived their teacher's role as less didactic, more responsive, more of a facilitator during lessons using an enquiry-based approach.

"Instead of telling us how to do it or giving us the answers, the teacher gave us guidance," said one Year 8 student.

This change in role requires teachers to draw on a range of abilities outside their subject specialism. They need to develop reactive teaching strategies for responding to students' ideas interests and concerns, such as using their subject expertise to make sense of those ideas, drawing on colleagues' expertise and encouraging students to share their own expertise with one another.

Teachers also found that they needed to be very active in creating a classroom environment conducive to enquiry-based learning. This meant striking a careful balance between structure, choice and responsibilities and developing activities that supported students in the development of their enquiry skills.

All the teachers in the study experienced varying degrees of challenge in adapting to this new classroom role. All reported a period of time in which they went through a process of defining exactly what their new role was and how their new role could best support students in theirs. As one secondary DT teacher said,

"I admit at first it was out of my comfort zone. I did realise very early on that the level of structure needed was very important and differed from class to class".

### Teacher control and identity

One of the issues faced by teachers as they negotiated this new reactive teaching role was one of control. For many teachers being the subject expert and teaching in a didactic style was equated with being in control of the classroom. The types of practical strategies that a teacher employs are intimately connected to the types of relationships that are possible in the classroom, and to the types of teacher and student identities that are available.

Dominantly in schools today those practices are designed to ensure that teachers retain absolute authority over every aspect of activity. In conventional didactic teaching methods the teacher, the adult in the room, is the expert who is in control of the learning: of the lesson content, the activities used to support the learning, the resources that are made available and the time those activities will take.

Thus, the teacher is able to retain the identity of the authoritative expert, while young people are identified (and identify themselves) as students whose task is to accept the teacher's instructions.

As students become more active and more responsible for the content and processes of their learning, these established notions of teacher identity and control are challenged. Teachers expressed that initially "giving up some control" of the learning process was hard, especially with regards to content. As one Head of Year 7 put it:

"The challenge has been to get some of the staff to understand that sacrificing 'control' of the learning does not mean that the students will not be making progress or developing their knowledge and understanding."

As another practitioner explained:

"As a teacher you generally always have a train of thought you want them to go down. It's hard to let go of that, to let them go for it."

She spoke of a period of time in which she adjusted to class discussions "taking learning off at a tangent" and how she subsequently developed the skills of relating those tangents back to subject knowledge and the topics of enquiry.

In traditional teaching methods, the teacher is also in control of the use of classroom space. For teachers who were used to the widespread secondary school classroom arrangement of students sitting in rows, facing the front, changing classroom arrangement so that students could work in collaborative groups equated to some loss of control and raised concerns about pupil behaviour.

The question of whose voices are heard in the classroom is also something that is traditionally controlled by the teacher. The teacher will ask questions to which students can respond. The teacher will indicate when it is acceptable for work to be accompanied by discussion and when it is not. Students are made aware of what is appropriate to talk about in the classroom and what is not.

In developing a partnership approach to the curriculum, in allowing students the opportunities to shape their learning, the classroom is opened up to a variety of voices and possibly a wide range of previously unsanctioned topics. This again requires teachers to give up some control and can prove challenging to their identity in the classroom. One teacher spoke of being unnerved by the prospect of topics of conversation that might come up when allowing young people to explore their lives and their interests in the classroom. He spoke of having to "let go" and feeling at first as though this was a challenge to his identity of the adult in full control.

### Critical teaching and thinking

An aim of the Enquiring Minds project was to foster students' enquiry-based learning so that they were supported to become curious and critical producers of knowledge in a complex and changing world. The development of critical pedagogies in teachers was a necessary response to this aim. Critical thinking involves being reflective, interpreting meaning and determining significance in order to make purposeful and informed decisions. The task, therefore, is for teachers to model the processes of critical enquiry for students and to support students to think critically at each stage of classroom activity.

The ability to interpret and question sources of information has arguably become increasingly important in a world in which the internet is the dominant research tool. The problem is that, as digital media have proliferated and extended into many areas of public and private life, it has become increasingly difficult to decode the content, purpose and possible outcomes of what is communicated via media. This is a challenge of legibility. Do people have the ability to read the communications produced in a variety of new media where it is not clear what constitutes authority and trustworthiness?

In some examples of enquiry-based approaches students have often engaged in internet research with the requirement that they are able to distinguish whether information is authentic, relevant and credible. Teachers commonly report students "copying and pasting" swathes of often only vaguely relevant, sometimes incorrect, information into a document and thinking they have "done research" without ever engaging with meaning.

In schools where this challenge has been well managed and to varying extents overcome, teachers have encouraged students to focus on the audience for the outcome of their enquiry process, placing an emphasis on the need to teach someone else what has been learnt, on sharing knowledge. This encourages students to use sources of information they can understand and then recontextualise so that they can pass it on to others. This has been most successful in schools where students have had real audiences for their outcomes. In those cases students have shown some evidence of reflecting on the needs of their audience and making purposeful decisions over what information to include and what to discard.

Tackling the problem of authenticity of information and critical thinking around the production of media has been more difficult. As one teacher explained:

"Being critical is important but it's hard to get across. Once they've done the work they want to move on".

He continued to explain that he found class discussion about sources of information and differing opinions to be crucial, along with the development of questioning skills. This challenge of students wanting to "move on" immediately upon completion of a task, of course, is a learned expectation related to the usual routines of school where fast pace and the completion of products prevail. In order to engender critical thinking, however, it may be necessary to challenge these routines and expectations; though more importantly it demonstrates how critical teaching and thinking needs to be embedded within the process of enquiry rather than held off until after completion. For those reasons, it may be useful to conceive of enquiry-based approaches as 'critical enquiry' where the objective throughout is for students to develop their critical skills through practice, and not just through late-stage reflection or evaluation.

### Opportunities and tensions

All but two schools in the study have been introducing changes in some form of discrete session. No school has undergone a wholesale curriculum change. For teachers, this meant teaching the new approach was just a part of their role in the school and for the majority, they continued to teach their subject discipline for the majority of the timetable. This provided some tension for teachers as they juggled the responsibility of developing new teaching skills suited to an enquiry-based approach whilst at the same time continuing to develop their subject teaching.

“I admit at first it was out of my comfort zone. I did realise very early on that the level of structure needed was very important and differed from class to class”

“As a teacher you generally always have a train of thought you want them to go down. It’s hard to let go of that, to let them go for it”

“It has changed the lesson dynamic considerably and I am really enjoying the positive interaction”

Two curriculum leaders who organised the introduction of enquiry approaches in discrete sessions in their schools expressed concerns that this arrangement could lead to new curriculum approaches being perceived as separate and of little relevance to the rest of the curriculum. There were also concerns expressed over the significance afforded to the new approach, which, because it was taught discretely as a non-exam subject, was perceived by other non-participating staff as a “soft option”.

However, teachers involved in the development of enquiry-based approaches frequently and positively reported the opportunity to take their new skills and develop them in their subject teaching in a small and informal way. One teacher, for example, stated:

“My other classes have definitely benefitted from me teaching in this way. It’s helped me to have more discussions in other lessons and to give my students more creative freedom”.

Another teacher used her experience of developing an enquiry-based approach to teaching and learning with a Year 7 group to allow her students during a subsequent series of geography lessons with her Year 9 students more responsibility for choosing content and the ways in which they presented the outcomes of their learning.

### Relationships

Teaching is a deeply human activity which is based on relationships and trust. The changes in role of teacher and student demanded by the sorts of curriculum change that are based on Enquiring Minds principle, bring about changes in the nature of the human relationships in the classroom.

Teachers stated that they enjoyed being able to create time in lessons for discussion and exploration of students’ interests because, as a result they developed more meaningful relationships with the young people they taught and a better understanding of their lives.

The teachers interviewed cited this as a professionally enriching experience and stated that “getting to know” their students allowed them to better respond to their needs as learners. One secondary teacher describes the change in her classroom relationships:

“It has changed the lesson dynamic considerably and I am really enjoying the positive interaction”.

Two senior members of staff from different schools in the study both separately concluded that those teachers who had ultimately enjoyed their new roles and gained the most from the experience were those who, quite simply, “like kids and are interested in kids’ lives”.

This was reflected in some comments made by teachers who felt that the experience had reminded them of why they had originally chosen the teaching profession: to support students to explore knowledge and develop as people.

### SPRINGWELL JUNIOR SCHOOL, HESTON, MIDDLESEX

#### Relationships for learning

Debra Kane, Headteacher at the multicultural Springwell Junior School was keen to move her teaching staff away from the “standards driven, stand and deliver” model of teaching and learning. Debra freed up time for her teaching staff to research approaches to curriculum change. She wanted to immerse staff in new ideas and gave them permission to risk trying out new approaches out in the classroom because she believes that teachers need to have ownership of change.

#### Relationships and creating the right environment for enquiry-based learning

Year 6 teachers at the school used the Enquiring Minds materials to plan a series of lessons that would give students more choice and responsibility over their learning. The Year 6 students worked in mixed ability groups to research an area of their choice within the given topic of natural disasters.

The students had handheld devices, laptops with wireless connection to the internet and books for research purposes. They were also encouraged to bring in their own resources. Notebooks and digital voice recorders were used for recording their research.

Initially the teachers felt that they had “lost their role”. They reported not only needing to adjust to a new classroom role but to first work out what that new role was. “Expectations need to be clearly set with the kids” said one teacher but she continued to explain that, as teachers they also needed to be prepared to “let them go with it”, to allow students to explore their interests and provide the space and resources for them to do so. Her colleague believes that developing classroom relationships is central to the success of enquiry-based learning: “It’s not them and us, we’re in this together”.

The majority of the students responded well immediately, enjoying the freedom to find out what they wanted to. However children who had become reliant on having the learning “handed to them on a plate”, initially found the increase in responsibility and independence more challenging.

The teachers quickly realised the need to create the right environment by ensuring that there was a balance between structure, choice and responsibilities. They described a period of discovering how to best support the children. They identified that confidence in questioning and research skills were important for the children to remain engaged and motivated so they used activities in the Enquiring Minds guide to support the development of these skills. The students were motivated by working collaboratively and sharing information, so the teachers gave them the responsibility of “teaching others what they had found out”. They also allowed them choice over how to present the information. Some groups used presentations, others developed drama pieces, and one group pretended to be reporters and filmed a report from a hurricane-ravaged area.

#### **Taking the Enquiring Minds style of teaching further – raised expectations**

Taking what they had learnt from the natural disasters themed enquiries, the teachers planned a cross-curricular module for the following term. This involved the young people creating their own theme park. The children once again worked collaboratively in groups with choice over what kind of theme park they were going to design, within a set budget. They decided where it was going to be and how they were going to market it, researching all aspects thoroughly so they could justify their decisions. The learners worked together to undertake a wide variety of activities such as using online mapping services to locate their theme park; using maths skills to keep on top of their budget; designing theme park rides using computer software; composing poems and choreographing and videoing dance routines.

The year 6 teachers were “completely blown away” by what their young students achieved and said that the Enquiring Minds principles had helped them to raise their expectations of their pupils. The school also underwent an Ofsted inspection during that autumn term and the inspector specifically praised the theme park work in her report.

Headteacher Debra says that “learning relationships are changing at Springwell”. She sees evidence of more class discussions, more peer learning activities and more in-depth learning. The Year 6 staff regularly share their experiences of enquiry-based learning to their peers in the staffroom and Debra interviewed the Year 6 students about their experiences. They were able to clearly articulate what they thought about their new curriculum, reporting that lessons felt “more joined up” and that they enjoyed being able to “research what they were interested in”.

[springwelljunior.co.uk](http://springwelljunior.co.uk)

## STUDENTS

Enquiring Minds aims to give students a voice. The development of a partnership curriculum allows young people more agency in the classroom, that is, the ability to have some say in what happens there. They have some say over the content, processes and outcomes of their learning. They take more responsibility for their learning. They are guided by their teacher to investigate their own areas of interest and to share their expertise with their peers, in doing so, contributing to the collective knowledge production of the class.

A common criticism of this kind of approach to schooling is that it simply seeks to make young people feel happier about school. It gives up on the idea that school is supposed to challenge and stretch students. It assumes that teachers' main duty is to ensure their students' self-esteem rather than their progress. While there may be some truth to these criticisms in some sites, it is important to recognise that the partnership approach that the study sought to explore had a more complex motivation.

Underpinning Enquiring Minds is an assumption that young people are constantly interpreting and making sense of the world they encounter, and are constantly gaining knowledge along the way. For teachers to focus on the knowledge that young people bring into school with them, rather than focusing solely on the knowledge that is contained within the curriculum itself, implies that school is a site where young people's life trajectories, experiences and aspirations are a dominant concern, not where students are simply kept happy. The aim is for young people to make informed, educated sense of the world, and to develop the skills and knowledge to thrive in it.

During the study researchers interviewed students about their experiences of the enquiry-based programs of learning their school had developed. This section examines learners' reported experiences and their responses to curriculum change.

### Freedom of choice

Students overwhelmingly report enjoying the new approaches to learning at their school and they frequently mentioned the words freedom and choice when explaining their experiences of lessons based on Enquiring Minds principles. They spoke of particularly enjoying the freedom to learn more about what interested them, and often using this to highlight the contrast between their enquiry-based learning with traditional subject teaching. One Year 8 girl, for example, said:

"In all the other lessons, teachers tell you what to do. In these lessons you can choose what you want to find out about, what interests you."

Students recognised and appreciated that their teachers were giving them some choice over how to go about their work. They relished being allowed to take some responsibility for the gathering of knowledge and discovering information for themselves. "We can choose what to research, what interests us and do the research ourselves, we can go about it in our own way, use our own brains," said one Year 8 girl.

And a Year 7 student explained:

"Usually you're told what to find out. When you find out on your own you can find out as much as you want."

For other students, this was expressed as the desire to slow down sometimes, and to have time and space available to make sense of what they're learning from their lessons. They suggested that the approach their teachers were taking-carefully guiding them through well-planned schemes of enquiry where the final outcome is not fully known until the relevant information has been located-permitted them to take such an approach.

Suffice to say, this was not a universal opinion amongst participating students, while others claimed to be more engaged while they were actually observed making very little effort at all. These observations demonstrate the need to balance student choice and freedom with the usual teacher's duty to ensure everyone is progressing. Where teachers managed this effectively during the study they were careful to ensure that plans were made and agreed between them and students, and that clear expectations had been set.

After all, the purpose of these particular classroom approaches is not to let children get on with whatever they want in the naive assumption that they will learn from the process as if by magic. The purpose is to connect school more forcefully with the reality of the modern world in which young people are growing up. These connections will not come about magically; students' choices and interests are a starting point for classroom activity and teachers must respond to them using their craft skills, subject knowledge and their understanding of context.

### Voice and ownership

In opening up the classroom to young people's interests and legitimising them as a starting point for learning and discussion, teachers were allowing students' voices and cultural experiences to be expressed and explored as part of the curriculum. Many students, unused to being asked to give their opinion, were initially suspicious of sharing their interests and experiences in a school setting, unsure of why their teacher might suddenly be interested in their lives beyond the classroom walls.

However, in schools where careful planning of activities supported students in gradually having more voice in the classroom, students reported enjoying the challenge of exploring their opinions and of sharing their thoughts and their knowledge with others. Students indicated that being involved in decisions about the content of their learning afforded them a feeling of ownership of and commitment to the learning process.

One Year 8 boy who was relatively disengaged in traditional subject lessons, for example, explained that he felt enquiry-based learning offered him "a fair chance", perhaps indicating that he did not find the traditional curriculum particularly fair or accessible. In being allowed a voice in the content of his learning, he had become engaged, researched new information, shared it with others and reported a sense of achievement. He explained:

"I have to do the thing I like so I do more work so then I think, well, I'm getting better than like in something else, history, what I don't really like."

This comment suggests that the student felt the approach was giving him an opportunity to engage in school in ways which he had not been able to previously.

Another Year 8 student claimed she felt that during discrete Enquiring Minds lessons at her school there was a "happier atmosphere", claiming that was because there was less disengagement than in other lessons:

"Most people just get on with it and concentrate in here because it's their choice of topic, they enjoy it more, they want to work."

Students highlighted the breadth of the topics their peers researched and stressed the importance of talk in their enquiry-based learning, reporting that they enjoyed sharing their interests and knowledge and learning through discussions with peers and with teachers. "It's more open minded and we talk about stuff more," said one Year 8 boy. His classmate confirmed:

"Some of the things people researched I'd never heard of before, so I learnt from my friends, you find out about your friends' interests."

Students suggested that they welcomed the chance to have more frequent two-way discussions with teachers. They reported that discussions with teachers provided them with valuable feedback on how well they are doing and added to their sense of achievement.

### Challenge

The collaborative learning that Enquiring Minds advocates often sees students working in pairs or groups. Some teachers have allowed students to work in friendship groups, something that students report to be enjoyable and fun. One criticism of enquiry-based, collaborative working is that although it is indeed fun, it does not provide sufficient challenge for students.

During interviews where the level of challenge was queried with students in schools participating in the study, this assumption was refuted by the students themselves. When asked whether their enquiry-based learning sessions are easy they report that they are not and cite a number of challenges they have encountered including choosing what to research, knowing where to research and working in groups with others. They speak about the importance of their teacher being there to guide them in their research when they “get stuck”. Students frequently describe thinking hard about their topics of enquiry and about expanding their interests using phrases like “it opens my mind”, or, as one Year 7 student put it: “You know what you have to research about but you can expand it.”

### Skills

Many school leaders chose to use Enquiring Minds materials to support a change in the curriculum in order to address the need for students to develop the skills of enquiry and independent learning. This was reflected in the students’ reported understanding of the benefits of enquiry-based learning. Students particularly focused on the development of their independent learning skills when discussing how lessons based on Enquiring Minds principles had helped them in other lessons.

One Year 8 girl, who had been having discrete Enquiring Minds lessons for two terms, stated that:

“It helps us be more independent. Sir helps so this lesson tries to get across that help is there but you can help yourself”.

A Year 9 student reported that discrete enquiry-based learning sessions helped her “be more independent in other lessons and to find things out for myself”. Others claimed that the independent learning skills they had gained made them more confident in other lessons, less teacher reliant and, they predicted, would support them in future educational events such as exams and coursework.

The focus by teachers and students on the development of independent skills has been a challenge for the Enquiring Minds project. The materials produced during the project place an emphasis on collaboration and see classrooms as places of collaborative knowledge production. However, school has traditionally been and continues to be a place that rewards individual achievement, with the ultimate aim being the individual’s attainment in exams.

Students frequently do work in groups in their enquiry-based learning sessions but they often reported more positive experiences when they were allowed to work on their own. They suggested that their understanding of independent learning equated to learning alone, in other words, to individualism. This was put very plainly by one Year 9 boy, who stated:

“It’s life skills. It teaches you to rely on yourself—you can’t always rely on other people to do it. Like at work, you can’t rely on your boss to tell you what to do all the time.”

This interpretation of Enquiring Minds reflects the ways in which schools are seen as sharpening students’ individual capabilities, rather than contributing to young people’s understanding of learning as a process that happens through cooperation and collaboration, or even in communities such as classrooms where every individual’s achievement is seen as contributing to the knowledge and skill of the whole class. But as the Year 9 boy stated, not relying on other people is one of today’s life skills. Schools are part of a pervasive modern worldview where the individual’s responsibility is to take care of his or her self.

## CHAMBERLAYNE COLLEGE FOR THE ARTS, WESTON, SOUTHAMPTON

### Skills for greater independence and a new way of perceiving learning

Chamberlayne College for the Arts devised their own skills-based curriculum which is taught in discrete lessons each week across Key Stage 3. Students from Year 7 and Year 8 have skills-focused lessons that link to the QCA's Personal Learning and Thinking Skills and the DCSF's Social Emotional Aspects of Learning (SEAL) curriculum. Students in Year 9 focus on developing their independent learning and enquiry skills through one hour a week of teaching and learning based on the Enquiring Minds principles.

The senior leadership of the college, a National Challenge school, recognised that many of their students were very teacher-reliant, had a lack of confidence in their own abilities and low aspirations. They wanted to re-engage students via a "pupil relevant perspective" that allowed students to explore the curriculum in relation to their own contexts and develop their independent learning skills, with the ultimate aim of raising attainment across the school.

Jan Maunder, the teacher responsible for the new skills-based curriculum planned three themed enquiries across Year 9 that allowed increasing levels of responsibility and choice for students as the school year progressed.

### A new way of perceiving learning and assessment

Initially the new approach to the curriculum was met with suspicion by some Year 9 students who had only experienced traditional subject-based curriculum teaching in their secondary school careers. There was some degree with which the discrete sessions were not perceived as a "proper" subject. One teacher explained that Enquiring Minds required a "cultural shift" and a "breaking of barriers across subjects" as she used her teaching skills to encourage students to see how the content of their enquiries and the skills they were learning were relevant to other lessons.

Another teacher described how initially class discussions were perceived as "just talking" not learning. For this teacher, one of the most positive outcomes of the changes to the curriculum was that her students have come to understand that "school learning doesn't have to involve writing facts down". "They have learnt the importance of verbalising their thoughts and as a result their communication skills have improved", she said.

As one of her pupils put it: "We have more class discussion, this helps our learning. We learn from each other".

[www.chamberlaynepark.southampton.sch.uk](http://www.chamberlaynepark.southampton.sch.uk)

# DISCUSSION

### Cultural shifts in learning

Curriculum innovation not only involves a change in approach to teaching and learning. It challenges traditionally held beliefs about the nature of learning itself. In an education system that is measured by and held accountable to educational attainment as measured by exam results, learning is concerned only with the acquisition of knowledge in the form of tidy packages of facts, delivered to the learner and then rehearsed for the purpose of being restated under controlled conditions.

In developing a partnership approach to the curriculum, in which the negotiation of content and production of knowledge were central, teachers and students were forced to look at the sorts of learning that were taking place in the classroom. This challenged the traditional notion of learning as a set of facts to be delivered from teacher to learner and highlighted the need for a cultural shift in the understanding of what constitutes learning.

Teachers reported not only needing to address their own conceptions of what classroom learning looks like but to work with students to unpick deeply held beliefs about the sorts of activities that comprise learning. For example in one school, some students initially indicated to their teachers that because they were not using a text book or completing a worksheet, they thought that they were not learning. As the Head of Year 7 in one of the participating schools stated:

“The greatest challenge has been to get our most able students to understand that not having lots of information written down every lesson does not mean that they are not learning.”

The teachers of these students worked to develop their understanding that meaningful learning could come from research, peer discussion and debate. They reported that, for them, an important outcome of approaching the curriculum in new ways was the chance to introduce and value space for learning through talk in their classrooms. These efforts, throughout, were attempts to regain a shared understanding of what constitutes learning after the tectonic cultural shift of being informed that learning is a process of negotiation and partnership.

### Balancing school responsibilities in curriculum innovation

In addition to being tasked with ensuring educational attainment for all, schools are also charged with a whole array of responsibilities, including developing responsible citizens, providing a place for children to be when parents are at work (wrap around care), promoting happiness and well-being in students, and ensuring community cohesion. In innovating with the curriculum, all of these responsibilities need to be taken into account. Almost all of the senior school leaders interviewed during the study spoke of the challenge of balancing their responsibilities. Indeed many spoke of the dual message being delivered by current policy.

The new National Curriculum has made the development of students' skills central to the curriculum and gives permission to be more creative in devising a local curriculum that takes into account local needs and contexts. However, schools in the UK are still strongly governed by inspection routines, league tables and may, in the worst-case scenario, be judged as failing, as measured by their results in standardised national tests. This hardline accountability does not allow for local differences and the recognition of students' contexts. Some school leaders suggest that this dichotomy is resulting in a reality in which schools gain permission to innovate at a local level only when they are comfortably achieving centrally-mandated attainment targets. Their concern is that this could result in yet another educational inequality; one in which only the students from certain schools experience innovative approaches to the curriculum and can focus on developing their skills, knowledge and understandings for a changing world, while students at other schools continue to experience a tightly controlled and highly prescriptive curriculum centred on achieving benchmark standards in the old basics.

Curriculum innovation, then, is not a politically neutral process. The processes of innovation being advanced to schools have the capacity to reproduce a tiered system where social and economic context determines which schools and which young people are allowed access to an innovative curriculum. Ensuring equality of education remains an ongoing challenge. The types of school that were using the Enquiring Minds materials were wide and varied suggesting that, in fact, schools with varying levels of attainment are engaging in curriculum change. However, one school became a National Challenge school during the project. As a result, there was increased external pressure on senior management at the school to focus their efforts on increasing exam results. It was commitment to curriculum innovation at the senior management level and the belief that ultimately new approaches would increase attainment, that allowed enquiry-based learning to continue in discrete sessions at the school.

### **Pace of school change**

Educational debates today are focused on ensuring fast-paced change in schools. Schools are seen as outdated relics of the industrial era and there is a sense that educational institutions need to catch up and keep up with the pace of change, often represented by the speed at which digital technology is developing. However, the research evidence (both in the Enquiring Minds study and elsewhere) suggests that school change is, in fact slow, messy, not uni-directional and difficult to sustain.

Schools in the Enquiring Minds study were undergoing a process of change but most of them were not implementing wholesale and sweeping changes to the entire curriculum. Most were introducing changes in one or two year groups, generally Years 7 or 8. In schools where the introduction of enquiry-based learning has led to a seemingly sustainable model, small groups of teachers with whose values the Enquiring Minds principles resonated undertook small trials of the new approach and then reported back their experiences to their peers. Many teachers spoke of the importance of being supported to take risks with their practice by their senior management team and in taking time to "get it right". All schools reported that curriculum change was an ongoing, often cyclical process and that any locally tailored curriculum would continue to evolve and develop over a period of years.

### **Knowledge economy**

Much UK education policy over the past 10 years has been motivated by the imperative to make the nation prosperous in a global knowledge economy. Indeed, during economic recession pressure is on the education system as a whole to ensure that the nation has a sustainable workforce and an asset base of skills and knowledge for the years to come.

Numerous education initiatives of the past decade are, therefore, the result of a child-centred social investment strategy which is based on the premise that it will yield dividends in the future by producing creative, thinking, flexible workers with the social and cognitive capital to flourish in an economy based on the trade of information. However, critics have already begun to question the notion of the knowledge economy, arguing that current trends do not necessarily support the predication that a global knowledge economy exists or will exist in the future. For example, the drive to produce flexible workers for the knowledge economy was in part, if not wholly, based on the deregulated boom economy in the era before the near collapse of the global banking systems.<sup>06</sup>

<sup>06</sup> This argument is developed at length in a paper for the Beyond Current Horizons programme of research: Lee, N (2009). *Childhood and Education: Changes and challenges*. Beyond Current Horizons Project, accessed online: [www.beyondcurrenthorizons.org.uk/childhood-and-education-changes-and-challenges](http://www.beyondcurrenthorizons.org.uk/childhood-and-education-changes-and-challenges)

The Enquiring Minds study is significant in this debate because it has been interpreted by many teachers and senior leaders as a direct pedagogical intervention intended to develop learners' creative knowledge and working capacities and to inculcate their flexibility for a constantly changing landscape of labour. In part, this is true. But Enquiring Minds is also motivated by a more critical spirit, with the curriculum seen as a reflection of dominant political trends which eventually exert material effects in the classroom. Thus, a curriculum in a landscape of proliferating digital media and knowledge-based work and services needs to equip young people with the ability to decode the content of digital media effectively, not just to know how to work with it for maximum efficiency and productivity.

### **Enquiring Minds as part of the curriculum landscape**

The case studies and research discussed in this document demonstrate that practitioners and students perceive the Enquiring Minds materials and principles as a valuable and worthwhile resource for supporting curriculum change. Enquiring Minds is seen as appropriate to a modern agenda where the National Curriculum is regarded as a broad set of aims and knowledge domains which schools and teachers are to be locally innovative in managing in the classroom. The materials and principles continue to be used by school leaders in developing new curricula to support young people in developing enquiry skills and, becoming more independent in their learning, and to make curriculum content more contextually relevant, coherent and meaningful.

The implementation of the new Key Stage 3 curriculum emphasises the development of skills and encourages more creative practices. The schools in this study were engaged in redesigning their curricula, using the Enquiring Minds research findings alongside other existing initiatives, to support them in customising programmes of learning that best support their students, resulting in more student-centred, skills-focused and cross-curricular approaches to teaching and learning. Through these new practices, the schools are hoping to demonstrate their capacity to meet the new aims of the National Curriculum and to maximise the opportunities they have been provided to be locally innovative in its organisation and management.

These new approaches have implications for teacher professional development. Teachers need to be equipped and supported to take risks with their practices and to see themselves as creative, reactive professionals. There are also implications for teachers' professional identity, their values and beliefs about what education is for and the nature of curriculum content and school knowledge.

We hope this report helps to contribute to educators' understanding of the complexity and implications of current changes in British schools.

## ABOUT MICROSOFT

Every child should have the opportunity to realise his or her full potential in the classroom, at home, and in the world at large. Empowered with the knowledge and skills that can only come from a good education, individuals are better equipped to enjoy a more fulfilling life and to thrive in the digital workplace. Microsoft believes that technology can be a powerful catalyst to improving teaching and learning for all and that we should play our part in broadening access to ICT and engaging and empowering students and teachers to use technology in creative and innovative ways. Through its Partners in Learning Programme, Microsoft has formed partnerships with Futurelab as well as with the Training & Development Agency for Schools; the Scottish Qualifications Authority; and National Assembly for Wales. These partnerships will help give today's children the best possible start in life. The Partners in Learning programme is designed to improve access to, and better use of, ICT in education. The programme already provides a wealth of resources and tools for teachers and schools. Further information can be found at: [www.microsoft.com/uk/education/PartnersinLearning](http://www.microsoft.com/uk/education/PartnersinLearning).

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Futurelab is passionate about transforming the way people learn. Tapping into the huge potential offered by digital and other technologies, we are developing innovative learning resources and practices that support new approaches to education for the 21st century.

Working in partnership with industry, policy and practice, Futurelab:

- incubates new ideas, taking them from the lab to the classroom
- offers hard evidence and practical advice to support the design and use of innovative learning tools
- communicates the latest thinking and practice in educational ICT
- provides the space for experimentation and the exchange of ideas between the creative, technology and education sectors.

A not-for-profit organisation, Futurelab is committed to sharing the lessons learnt from our research and development in order to inform positive change to educational policy and practice.

### Futurelab

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