

Mapping work on the future of teaching and learning

Final report for
the General Teaching Council

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1 INTRODUCTION

This chapter outlines the background, aims and methodology of the mapping exercise and explains the structure of the report.

1.1 Aims and background

This report presents the findings from a mapping exercise, carried out by a research team at the National Foundation for Educational Research (NFER), which aimed to identify and chart current thinking regarding the future of teaching and learning. The study was carried out between July and October 2003 and was initiated and funded by the General Teaching Council for England (GTC), which required a desk-based research project to support its work in this area. The three main aims of the project were to:

- identify and document a range of organisations' current thinking about the future of teaching and learning
- analyse and map the key themes in this thinking, in terms of issues, commonalities and differences
- suggest ways in which the GTC might proceed in relation to this map of thinking on 'pedagogical futures'.

From the outset the NFER team, in consultation with GTC representatives, had to consider carefully the scope of the mapping exercise, particularly the question of which documents and which organisations should be covered. The following criteria were adopted when considering the selection of documents for inclusion in the project:

- *subject relevance*: documents needed to have a clear focus on the future of teaching and learning
- *time relevance*: publications had to be relevant to contemporary debates in this area, taking account of current, planned and potential developments that may impact upon the teaching profession
- *geographical relevance*: content of the documents had to relate to the GTC's remit and membership (the maintained school sector and non-maintained special schools in England), though high-quality international work was also included where it was of relevance.

A list of organisations was developed from the original research brief and from ongoing discussions about developments in this area of educational 'futures'. A decision was made regarding the types of organisations to be featured:

- government departments and agencies

- research-related organisations
- think tanks
- educational unions
- learned societies
- professional associations
- campaigning organisations
- local government associations
- international networks and organisations
- university education departments.

Further details of the organisations featured, along with comments on the broad perspectives towards future developments in teaching and learning adopted by these organisations, are included in the next chapter.

1.2 Methodology

The NFER team was seeking to provide a clear, independently developed, picture of the territory and of the different themes, issues and agendas relating to this area of education. There were four main stages in the project methodology as outlined below:

Stage 1: identification of relevant organisations and documentation

Staff at the NFER Library carried out initial searches of specific organisations' websites in order to identify and locate relevant documentation. Searches were also made of national databases, including the British Education Index and the British Education Internet Resource Catalogue for recent publications and the CERUK (Current Educational Research in the UK) database for relevant current and ongoing research.

Documents were obtained in a variety of ways:

- the NFER library
- another library by NFER library staff
- downloaded from the internet (where available)
- sent directly to the NFER by the organisation or the individual concerned.

To assist with collecting as much relevant documentation as possible, the project administrator sent out to all identified organisations, by email, a 'call for information' (see Figure 1).

Follow-up letters were also sent to a number of the major organisations and key individuals, requesting information about work that might be underway in this area, but not yet available through organisational websites or publications. Face-to-face discussions were carried out with four individuals from high profile

organisations in the area of futures work. These provided an opportunity to discuss the views and current work of these organisations in more detail and to gain feedback on our emerging ideas about work in the area.

Figure 1 Contents of the ‘call for information’

REQUEST FOR INFORMATION ABOUT WORK ON THE FUTURE OF TEACHING AND LEARNING

NFER has been commissioned by the GTC to carry out a desk-based research project entitled *‘Mapping Work on the Future of Teaching and Learning’*. The project aims to analyse a range of organisations’ current thinking about the future of teaching and learning in England. The findings will be used to inform GTC policy and it is expected that they will be published as a GTC/NFER Report.

Given the project’s short time-scale (July–October 2003), the NFER research team are keen to hear from you about any relevant documentation (printed or electronic, published or forthcoming).

We are particularly interested in documents that:

- have a clear focus on the future of teaching and learning
- are recent/contemporary publications
- relate to the maintained school sector and non-maintained special schools in England.

The combination of searches, requests for information by email, follow-up letters and face-to-face discussions led to the identification and receipt of over 200 printed or electronic documents, mostly of recent origin, i.e. the majority of items are dated 2000 to 2003.

Stage 2: logging of documents and construction of a database

The NFER library assisted with obtaining the documentation and the details of each item were logged. The team worked together to produce a database, with a record for each document featured. The database (and the References section of the report) provides details of all the relevant recent documentation identified up to the time of writing. This should be a useful tool not only for this mapping exercise, but also for any further evaluation or planning work to be carried out regarding the literature on the future of teaching and learning.

Stage 3: desk work: analysis of documentation

The documents were in a variety of formats, including policy documents, briefing papers, discussion documents and research summaries. A conceptual framework developed to assist the analysis of the documents included the following dimensions:

- document type
- key themes covered

- view of the problem/issue
- underpinning assumptions/concepts/metaphors/theories
- evidence used, e.g. qualitative, quantitative, theory or none
- recommendations made/solutions proposed
- key words used.

Categorisations of subject content were also developed, for example in terms of:

- relevance to teacher roles
- teacher skills
- learning styles
- training and professional development
- a focus on information and communications technology
- support staff
- the changing curriculum.

Stage 4: desk work: mapping of the main themes, issues and agendas

The next stage was to synthesise these reviews by mapping out the differing themes and perspectives within the literature (see Campbell, 2003, on synthesizing qualitative research findings). The researchers had to ask a number of questions of the documents they investigated:

- what did the documents have in common?
- what were the main differences and what interests were driving these?
- what gaps were evident?
- what further work needed to be done?

In addressing these questions, the researchers were able to build up a picture or map of the main themes of the literature on the future of teaching and learning and of the areas of consensus and controversy.

1.3 Structure of the report

Chapters 2 and 3 are overview chapters, setting the scene for the theme-based chapters which follow. Chapter 2 briefly summarises the perspectives of the key organisations which contribute towards thinking and policy on the future of teaching and learning. Chapter 3 considers examples of recent educational scenario building or futures work and presents a categorisation of different kinds of approaches to futurising in education.

These two chapters pave the way for the substantive, theme-based chapters that make up the main body of this report.

The themes were identified according to their prominence or importance as expressed in the literature. Subsequent to the literature searches it was clear that there was a good deal of material on, for example, training and professional development, teachers' roles, the use of ICT, assessment and the curriculum, so it was desirable to have chapters on these topics.

Much futures work is expressed in generalities, in terms of, for example, the changing nature of society and of the complex demands being made of teachers and learners, making it difficult for the reader to identify specific areas of interest. Having a set of themes or dimensions such as the one set out above is useful because it breaks down some of the constituent elements of teaching and learning in a way that may be helpful to a variety of audiences. It is also a way of assisting with the identification of areas where there is consensus or controversy surrounding future developments and areas where further work is required.

This is a huge area and the authors certainly would not claim to have covered all the relevant material, but the mapping does provide a reasonable picture of the current literature and main organisational perspectives in this area. It is hoped that the report will make a useful contribution to the debates and deliberations about the future of teaching and learning.

2 ORGANISATIONAL PERSPECTIVES

This chapter provides details of the key organisations whose work has featured in this mapping project. It explains the organisational perspectives that this study was able to access and briefly summarises the main perspectives or emphases of several organisations, based upon their published documents.

More detailed discussion about organisations' scenario-building exercises and/or their work relating to specific aspects of teaching and learning is given in subsequent chapters.

2.1 Identifying organisational perspectives

Relevant information and publications were identified from a range of organisations using a number of search strategies. These included website searches, database searches, electronic calls for information, individual letters and face-to-face discussions. The research team used several different search strategies in order to access current and forthcoming, as well as recent and published futures work.

In presenting our findings it is important to be clear about what kinds of futures thinking we were able to access and what kinds were beyond the scope of our search strategies. We have found it helpful to distinguish between:

- work focused on the future of a particular organisation (organisational futures) and work focused on the future of society more generally (societal futures)
- work that has already been documented and published (formal futures) and work that is still emerging and not yet documented or published (informal futures).

The inter-relationship between these two continua can be seen in Figure 2, which distinguishes between four ideal types of futures thinking.

Type A: internal corporate planning

Type B: organisational strategy documents

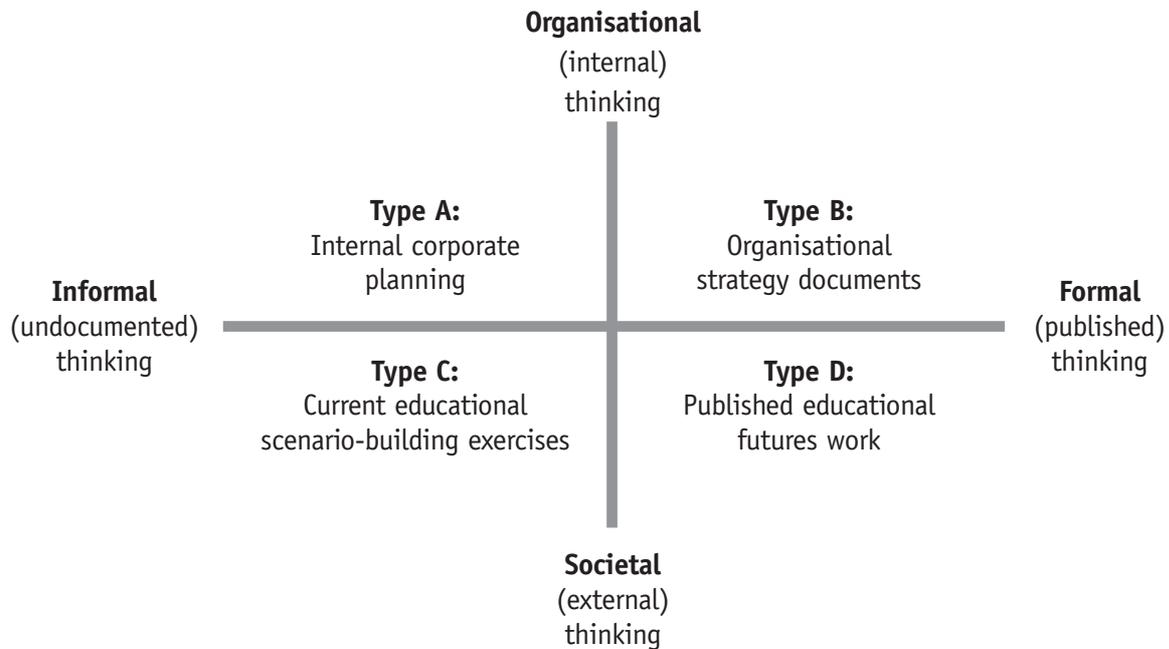
Type C: current educational scenario-building

Type D: published educational futures work.

This mapping exercise is based predominantly on type D futures work (published educational futures documents). Where possible, this was supplemented by type C (current scenario-building exercises) and, if relevant, type B (organisations' published strategy documents) futures work. It was not

possible to access information stemming from type A futures work (organisations' internal corporate planning) within the time-scale and scope of this mapping exercise.

Figure 2 Different types of futures thinking



This mapping exercise is based predominantly on type D futures work (published educational futures documents). Where possible, this was supplemented by type C (current scenario-building exercises) and, if relevant, type B (organisations' published strategy documents) futures work. It was not possible to access information stemming from type A futures work (organisations' internal corporate planning) within the time-scale and scope of this mapping exercise.

2.2 Key organisations

The first set of key organisations contacted came under the heading of government departments and agencies. This covered national organisations such as:

- Department for Education and Skills (DfES)
- Department for Trade and Industry (DTI)
- General Teaching Council (GTC)
- National College for School Leadership (NCSL)
- Office for Standards in Education (Ofsted)
- Teacher Training Agency (TTA)

- Qualifications and Curriculum Authority (QCA)
- British Educational Communications and Technology Agency (BECTA).

Clearly all of these can be regarded as key players, though each with different emphases and interests, in terms of influencing future policies relating to teaching and learning.

The **DfES** was one of the first organisations contacted. The division of the Department into particular sectors and areas and the emphasis on a broad range of policies, programmes and initiatives made it difficult to separate specific information about the future of teaching and learning from more general information, for example, implementation of policy. (See chapter 13 on partnership policies).

There are two DfES documents, however, that focus specifically on the future: *Schools for the Future* (DfES, 2002a) and *Classrooms of the Future* (DfES, 2003a). These are discussed further in later chapters, but their general premise is that ‘We need to look at ways of designing inspiring buildings [and learning environments] that can adapt to educational and technological change’ (DfES, 2003a:iii).

There are also two important general documents that provide useful pointers relating to educational policies for the near future. *Excellence and Enjoyment* (DfES, 2003b) sets out a vision for the future of primary education. This includes chapters on the importance of ‘a focus on individual children’, ‘partnerships beyond the classroom’ and ‘realising the vision’.

In *A New Specialist System: Transforming Secondary Education* (DfES, 2003c:3), the Secretary of State for Education and skills sets out the four key areas of strategy for transforming secondary education:

- creating a new specialist system
- building strong leadership teams
- reforming the school workforce
- developing partnerships beyond the classroom.

Within the DfES there are two organisational units that have a particular focus on, or relevance to, futures work: the **Standards and Effectiveness Unit (SEU)** and the **Innovation Unit**. The information presented on the SEU’s website includes a series of core principles, as outlined by Hopkins (the Head of the SEU), which give some indication of the unit’s main ideas relating to the future of teaching and learning. These principles (at: cover ‘Teaching and Learning’, ‘School Improvement’ and ‘System Wide Reform’. See <http://www.standards.dfes.gov.uk/seu/coreprinciples1/>). The overall aim is ‘to achieve high quality and high equity in educational standards by placing teaching and learning at the heart of educational change’.

Interested parties have been encouraged to make comments and the SEU are currently reviewing how best to use these principles to help to shape future policymaking.

The Innovation Unit was launched in June 2002 and has the task ‘of initiating and supporting new ways for schools to do their jobs more effectively’ (GB. Parliament, HoC, 2001). In the report, Estelle Morris, the then Secretary of State, said that ‘We want you to feel confident and empowered to take risks, knowing that you’ll be supported whether they work or whether they don’t work’ (Morris, 2003). The roles of the Innovation Unit include the following (see: <http://www.standards.dfes.gov.uk/innovation-unit/faqs/?version=1>):

- providing a strategic overview (or think-tank capacity) of innovation in schools and elsewhere including the international dimension
- acting as a clearing house on innovative activity so that schools wanting to pursue particular paths can be put in touch with others trying similar things
- acting as a referral centre where teachers and headteachers can go with their ideas, to receive support and expertise
- providing a resource centre for teachers and headteachers – bringing together information and advice about best practice
- influencing Government education policy – acting as a voice for schools inside Government and bringing new ideas to all levels of Government.

The Department for Trade and Industry (DTI) was included because this department has recently carried out some scenarios work under the heading of *Foresight Futures 2020*.

The aims of the **General Teaching Council (GTC)** include providing a professional voice for teachers, raising the status of teaching and listening to and working with teachers. See <http://www.gtce.org.uk>. The GTC has already carried out some futures work, notably with the Institute of Public Policy Research and through the work of Riley (both mentioned throughout this report).

The **National College for School Leadership** was established in 2000 and is working to be ‘at the cutting edge on thinking about leadership’ (DfES, 2003b:31). It is not only making a contribution to debates about the future of leadership in schools, but is also helping to shape this future through the provision of professional development courses and seminars for school managers (see chapter 12).

The emphasis of **Ofsted** is on inspection, monitoring and evaluation. Inspections are carried out not just in relation to schools, but also as part of the process of evaluating other educational institutions. Ofsted also evaluates particular educational policies or initiatives. The new *Framework for*

Inspection, (Ofsted, 2003) introduced in September 2003, is already impacting upon schools (see chapter 11).

The **Teacher Training Agency (TTA)**, according to the aims and objectives expressed on its website (<http://www.tta.org.uk>), has a number of strategic aims, including the following. To:

- increase the number of able and committed people recruited to teaching
- improve the quality of initial teacher training and induction for newly qualified teachers
- ensure a sufficiently wide range of good quality ITT provision to meet trainee needs and national targets.

The Agency ‘stands in an important position at the gateway to the profession’ and in this respect needs to keep an interest and involvement in policies and developments that will affect the profession.

The aim of the British Educational Communications and Technology Agency (**BECTA**), as expressed on its website (<http://www.becta.org.uk>), is to: ‘... support the Government and national organisations in the use and development of ICT in education to raise standards, widen access, improve skills and encourage effective practice’. BECTA also plays an important supportive role to schools and teachers by providing them with information that will assist with planning for the introduction, the implementation and the most effective uses of the new technologies (see chapter 9).

The next set of key organisations to be featured in the mapping exercise consisted of **research-related organisations and university education departments**. These included:

- National Educational Research Forum (NERF)
- British Educational Research Association (BERA)
- Current Educational Research in the UK (CERUK)
- Evidence for Policy and Practice Information (EPPI) Centre
- Economic and Social Research Council (ESRC), especially the Teaching and Learning Research Programme and the Learning and Skills Research Centre (LSRC)
- University of London, Institute of Education
- other universities that may be involved in work concerning the future of teaching and learning.

The **ESRC**, for example, is making an important contribution to debates in this area through its funding of the Teaching and Learning Research Programme. There are several projects within this programme that cover futures issues. There are also 19 projects in post-16, further and higher education and

workplace, continuing and lifelong learning (ESRC, 2003:1), see <http://www.tlrp.org>.

The next set of organisations featured consisted of **Think Tanks** – including the Institute for Public Policy Research (IPPR), DEMOS, the Adam Smith Institute, the Institute of Ideas and the Joseph Rowntree Foundation.

DEMOS is ‘a greenhouse for new ideas which can improve the quality of our lives’ (Hargreaves, 2003, p. 1). It is an independent think tank with work organised around five themes, one of which is learning. DEMOS ‘operates beyond traditional party politics’ and brings together ‘people from a wide range of backgrounds to cross-fertilise ideas and experience’. See www.demos.co.uk. Bentley and Hargreaves, particularly, have made important contributions to ideas about the future of schooling and their work is mentioned in several of the following chapters.

The **IPPR** describes itself as ‘Britain’s leading progressive think tank’ and has the objective of putting forward, ‘practical and achievable recommendations on changes to public policy and contribute to public understanding of social, economic and political questions’ (IPPR, 2001:18). Johnson and Hallgarten (2002) have carried out some important work on ‘*The Future of the Teaching Profession*’.

The **educational unions** contacted included:

- National Union of Teachers (NUT)
- National Association of Schoolmasters/Union of Women Teachers (NASUWT)
- Association of Teachers and Lecturers (ATL)
- National Association of Head Teachers (NAHT)
- Secondary Heads Association (SHA).

These unions and associations concentrate on more short-term issues, matters of day-to-day concern to their members. For the NAS/UWT, for example, testing overload and the effect that this has on teachers’ lives is a primary concern (NASUWT, 2002:13). A large part of their role is to provide information and advice for their members. They can also, of course, contribute to longer-term thinking about future educational issues, as evidence by the NUT’s publication of an entire *Education Review* journal entitled ‘School of the Future’ (Education Review, 1998).

Information was also requested from **professional associations, subject associations and learned societies** – including:

- Association for the Teaching of the Social Sciences (ATSS)
- Association for Citizenship Teaching (ACT)

- Association of Teachers of Mathematics (ATM)
- Geographical Association (GA)
- National Association for the Teaching of English (NATE)
- Design and Technology Association (DATA)
- British Association of Language Teaching (BALT)
- Royal Society of Arts (RSA).

Information from some non-educational professional associations was also received via a request made through the Professional Associations Research Network (PARN) (see chapter 3).

A number of **specialist and local government associations** were also contacted – including:

- Local Government Association (LGA)
- Local Authority Association (ConfEd)
- National Association of Educational Inspectors, Advisers and Consultants (NAEIAC)
- National Association for Primary Education (NAPE)
- National Association for Special Educational Needs (NASEN)
- Universities Council for the Education of Teachers (UCET).

The request for information was also sent to the major **international networks and organisations** – such as the Consortium of Institutions for Development and Research in Education (CIDREE), EURYDICE (an information network on education in Europe), the Centre for Educational Research and Innovation (CERI) at the Organisation for Economic Co-operation and Development and the World Bank (Education Service).

3 SCENARIOS AND FUTURES WORK

This chapter summarises previous and current attempts at scenario building or futures work in education. It begins by identifying and discussing a number of different approaches to educational futurising and then considers examples of projects that have been carried out by organisations working in this area.

3.1 Different approaches to educational futurising

An important point to make initially is that futurising is seen by some to be a relatively undeveloped activity in education, as compared with other areas of public policy (such as health and transport) and sectors of the economy (such as pensions and life insurance). A recent strategy document of the National Educational Research Forum (NERF), for example, points out that: ‘Hitherto, there has not been a foresight exercise dedicated to education.’ (NERF, 2001b:6).

In considering educational futurising, though, we have found it helpful to distinguish between writing and thinking focused on the following four types of futures:

- forecasted futures (extrapolation), i.e. given these trends, this is likely to happen, e.g. Johnson (2001)
- predicted futures (prediction), i.e. this will be the case, e.g. Hargreaves (1994)
- possible futures (speculation), i.e. this might be the case, e.g. LSRC (2003), OECD (2003)
- desired futures (prescription), i.e. this should be the case, e.g. Sterling (2001); Atkins *et al.* (2002), Delors *et al.* (1996).

Each of these represents a different approach to thinking about the future. The first two, for example, are concerned with trying to forecast or predict how the future will be in view of current and envisaged socio-economic trends and policy developments. As explained by Hargreaves (1994), ‘Sketching the future of schools is a hazardous business: it is easier to state predilections than to make predictions, to say what schools *should* be like than what they *will* be like’ (p.52, emphases added).

The focus of the third type (possible futures), however, is developing possible scenarios of the future. To quote a forthcoming LSRC report: ‘Scenarios are not designed to predict the future: their aim is to describe possible futures, as a way of conceptualising emerging trends and exploring some of the alternatives that could lie ahead’ (LSRC, 2003:43).

The fourth type (desired futures) is concerned with envisioning alternative futures, based on values quite different from those seen as underpinning the likely future. An example would be Sterling (2001) whose work on the future sets out to: 'critique the prevailing educational paradigm from an ecological perspective and outline an alternative educational paradigm' (p.10; see also Peacock, 2003 on 'eco-literacy').

In drawing these distinctions, however, it is important to note that any one futurising exercise may well incorporate a mixture or overlaps of these types of thinking. As argued in a recent NERF publication:

Foresight can be thought of as comprising three dimensions all of which should be taken into account: (i) extrapolation from trends; (ii) speculation and (iii) 'envisioning'.

(NERF, 2001b:6)

Having said this, it should also be recognised that each of the four approaches outlined above (forecasted, predicted, possible and desired futures) are underpinned by different motivations for futurising. Work on desired futures, for example, is often associated with organisations or individuals seeking to develop alternative futures in opposition to the perceived status quo. It might therefore be suggested that organisations with a statutory responsibility for education and schooling (such as government departments and agencies) may be more likely to be involved in work relating to forecasted and predicted futures, whereas those without (or with less) statutory responsibility (such as professional associations, educational unions, researchers) may be more likely to be involved in developing desired futures in relation to their particular interests and membership. In this sense, it is important to recognise that futurising is a values-based activity that is influenced by organisations' statutory responsibilities (or otherwise) and vested interests.

Futures work can also be categorised according to the types of evidence or information it uses to develop a view of the future. Research revealed examples of futures work based on the following types of data:

- social/educational trend data, e.g. Johnson (2001); LSRC (2003)
- quantitative research, e.g. Atkins *et al.* (2002)
- qualitative research, e.g. QCA (2002); Burke and Grosvenor (2003)
- school-based pilot project case studies, e.g. DfES (2002a; 2003a); Jupp *et al.* (2001)
- social/educational theory/philosophy, e.g. Sterling (2001); Elliott (1998)
- policy developments, e.g. Hargreaves (1994); DfES (2002b).

Clearly these are not necessarily mutually exclusive categories and it is possible for futures studies to draw upon several of these evidence types in combination.

Another way of considering or organising futures thinking is by the possible drivers of change that are considered. Common examples of drivers of educational change include the following:

- economic change, such as emergence of ‘the knowledge economy’
- developments in Information and Communication Technology (ICT)
- educational and public policy developments
- increasing social diversity and cultural complexity
- demographic trends relating to school pupils and staff
- changing consumer demands and preferences
- increasing globalisation
- the challenge of sustainable development.

As with sources of evidence, different authors place different levels of emphasis on these various drivers. This is considered in more detail in later chapters.

Whatever the approach, strong arguments have been made that there is a need for more futures work in education. In particular, it has been emphasised that there is an urgent need for: ‘a horizon scanning exercise that [has] education as its main point of reference rather than merely as one dimension of another topic’. (NERF, 2001a:6). This has important implications for educational research which is seen as both contributing to and learning from, such an exercise. As the Forum further argues:

First, research will be called upon to inform the foresight process by identifying current trends and by systematically exploring the implications of hypothetical courses of action. Second, we expect that the outcomes of a foresight exercise will begin to map out a context within which important themes for future research can be identified.

(NERF, 2001b:6–7)

The findings from our mapping exercise support the view that there is a need for more futures work in education. The question of what kinds of educational futures work are currently under-represented in the literature and how such gaps might be filled is explored in the report’s final chapter.

3.2 Examples of educational futures work

During the course of the mapping exercise we looked for examples of (documented) thinking by organisations that could clearly be classified as futures work. This section outlines the details of some of the examples found: given their broad nature, most of these tend to focus on possible futures.

The **Department for Education and Skills** has carried out a form of futurising, relating not to future policy, but mainly to schools and classrooms as aspects of

the physical learning environment. These ideas are presented in two documents, *Schools for the Future* (DfES, 2002a) and *Classrooms of the Future* (DfES, 2003a). The first of these contains an interesting discussion of the ‘key issues for the 21st century school’, including coverage of the changing curriculum, the impact of ICT and inclusion (DfES, 2002a, Part 1). The second document emphasises the importance of architecture and design for the classrooms of the future:

To deliver the best and most effective education, exploiting all the possibilities of the Information Age, school buildings need to reflect advances in technology. They need to provide a pleasant and comfortable environment for learning and use architectural and design features to stimulate children’s imaginations. And they need to be open to wider use, binding schools into their local communities.

(DfES, 2003a:3)

Case studies of schools which are thinking ahead, in this respect, along with further information about design issues can be found on the *TeacherNet Schools for the Future* website. See www.teachernet.gov.uk/schoolsforthefuture.

The **Department for Trade and Industry** (DTI), in *Foresight Futures 2020*, (DTI, 2002) sets out four broad scenarios which are designed to assist with commercial and technological planning: ‘The Foresight programme tries to look beyond normal commercial horizons to identify potential opportunities from new science and technologies’ (DTI, 2002:3). The scenarios are not intended to predict the future, rather they are ‘tools for thinking about the future’ (p.4); ‘Good scenarios help us to understand how key drivers might interact and affect the future’ (p.22).

The **Institute for Public Policy Research** (IPPR), in conjunction with the **General Teaching Council** (GTC) and the **Future Education Network** (FEN), has carried out a project which looked at ‘*The Future of the Teaching Profession*’. The aim was ‘to create a vision for the profession in 2010 and explore short, medium and long term policy options, to be considered at national, local and school levels’ (IPPR, 2001:18). Pupils, parents, governors and teachers were able to contribute to this exercise through the completion of an online survey. Details of the resources utilised in this project and quotations that were used to stimulate discussion about teachers’ roles, can be accessed at: <http://www.gtce.org.uk> and <http://www.fen.co.uk>.

Some comments from this online survey have been collected together and reported in a paper entitled ‘Visions for the profession’ by Reed and Hallgarten (2002). This summary, based on over 500 responses, mostly from current or former teachers, makes for fascinating reading. One finding, for example, relating to a question about the future status of the profession, was that ‘a considerable number of respondents... felt that the standing of teaching had turned a corner and was beginning to improve’ (p.171).

The general findings from this project can be found in Johnson and Hallgarten (2002). These authors conclude that for the last two decades teachers have been ‘victims of change’ and that there is now an opportunity to reverse this: ‘With a mixture of appropriate support and benign neglect from government and renewed engagement of parents and the wider community, teachers can finally become genuine agents of change’ (2002:16).

Researchers at the **Qualifications and Curriculum Authority (QCA)** looked at future educational possibilities from a different angle by asking the question: ‘What strategies should QCA be developing to make sure the national curriculum and its assessment are in good shape for tomorrow’s world?’. See the QCA website: http://www.qca.org.uk/onq/11/news/the_world_in_2011.asp. A seminar was held on ‘Scenarios and strategies for the school curriculum and assessment in 2011’. This included discussion of how scenario planning can be used to assist educational planning. Four scenarios were considered initially, later extended to five (QCA, 2002):

1. Scenario A – everyone is different
2. Scenario B – citizenship
3. Scenario C – web-pages rule
4. Scenario D – core values, core problems
5. Scenario E – retrenchment: education unaffordable.

Each of these involved different emphases and demands on the curriculum and assessment system. The idea of the exercise was to create a language for ‘strategic conversation’ and to look at some ‘plausible alternatives of what schooling may look like some years hence’ (QCA, 2002:3).

One of the aims of the **National Education Research Forum (NERF)** is to ‘Advise on horizon scanning and foresight requirements’. See <http://www.nerf-uk.org>. NERF intends to develop an ‘observatory’ to assist their understanding of education and training in the future:

The main focus of this ‘futures’ exercise will be to anticipate major issues for which research might be needed... To identify topics for such research, some sense is needed of which issues might rise to prominence and which might die away in 3, 5, 10 or 20 years and of possible options for addressing them.

<http://www.nerf-uk.org/observatory>

A report by the **Learning and Skills Research Centre (LSRC)**, forthcoming identifies four possible scenarios for post-16 learning, each with its own set of challenges:

- steady as she goes – this ‘represents “more of the same”, with less regulation and/or public investment than the other scenarios’ (p.45)

- change tack – ‘a stronger focus on regulation ... but little increase in public investment’ (p.48)
- change course – ‘a U-turn – away from skills supply to a concentration on skills demand’ (p.52)
- all aboard! – the most radical scenario, ‘involving a high degree of government intervention and high levels of public investment’ (p.58).

This report also identifies five key drivers of change for post-16 learning in the future:

- technology
- consumer values
- staff shortages and diversity of educators’ roles
- re-engaging disaffected learners
- private sector (pre-16) to post-16 state schools/colleges.

In 2000 the **Local Government Association** issued a discussion paper entitled *Education in 2020*, produced as part of an exercise of looking at the educational role of local authorities in the first part of the twenty-first century. This was in some respects a response to David Blunkett, the then Secretary of State for Education, who asserted: ‘I will challenge local authorities to look at what tomorrow’s education service will look like... bearing in mind that if there is not a local and accountable service, we will have to invent one’ (reported in: LGA, 2000:1). Two days of workshops with local councillors, education officers and others (the 20:20 group), along with group discussions with head teachers and young educational professionals, led to the ideas presented in this discussion paper. The five main points made have considerable implications for teaching and learning (LGA, 2000:1). They relate to:

- the need for new learning skills
- increased flexibility, arising from developments in new technology
- schools as ‘community learning centres’
- teachers as ‘learning managers’, focused on skills rather than knowledge
- local government as a facilitator for learners and learning communities.

By 2020, the ‘traditional’ LEA will have ‘disappeared from the education service’ and local councils will have a threefold educational role: acting as guarantor for individual entitlement to learning; ensuring access to high quality services and acting as a community leader (LGA.:1).

The **National Association of Educational Inspectors, Advisers and Consultants** (NAEIAC) has explored the future nature of the school system through an exercise and a report entitled *Futureschool?* (NAEIAC, 2003). In June 2002, a meeting of the Executive Committee of NAEIC, with a panel of invited speakers, held a special session to look ‘frankly and openly at the future nature of our schools, in the light of current trends and likely developments’.

The aims of the exercise were to raise issues, to explore ‘our common future’ and to trigger a broader debate. See <http://62.73.166.138/naeiac/main>. In September 2003, the **National Association of Head Teachers** held a seminar on *Learning for the Future*, which considered, amongst other things, coherence in the various futures discussions and future resourcing needs.

CERI carries out studies relating to education across all **OECD** (Organisation for Economic Co-operation and Development) countries. Based in Paris, CERI is ‘a focal point for information and discussion on trends in education systems throughout the industrialised world’. See <http://www1.oecd.org/cer/about.htm>. The OECD (2003) has produced six scenarios ‘of how schooling might be overall in a society’ up to 2020. These are:

- status quo: (i) bureaucratic school systems
 (ii) teacher exodus, meltdown
- re-schooling: (iii) school as core social centres
 (iv) schools as focused learning organisations
- de-schooling: (v) learning networks and the network society
 (vi) extending the market model

‘In reality one would expect complex mixes to emerge between these possible futures...’. The value of the scenarios is ‘as a tool to think about what we want and do not want’. (OECD, 2003:1; see also Miller and Bentley, 2003).

The professional associations listed in the previous chapter represent various sub-groups within the educational profession, but it may be that **other professional groups**, working in other areas, such as health or the public services, have carried out useful futures work that might help to inform educational planning. To address this possibility, the GTC sent out a request for information through PARN. PARN is a non-political membership organisation set up to undertake research and provide networking opportunities for professional associations and their regulatory bodies. It has over 110 members in Great Britain and Ireland and therefore represents a substantial range of professions.

The GTC request asked PARN members for feedback about any work they are doing or have recently done involving foresight exercises and scenario-building for the future of their profession and knowledge, skill and learning needs in the future.

In total, ten replies were received, nine from organisations and one from an individual consultant. Seven of the organisations indicated that they had recently carried out or were in the process of carrying out some form of mapping, review or futures exercise (of the remaining two organisations, one indicated that they could not contribute any information on this area and the

other named one individual who was carrying out some limited work). One organisation, representing a medical profession, indicated that it had just started a series of ‘blue skies’ exercises which are intended to look ‘over the horizon’ at the future of the profession and the challenges it may face. The Royal Institute of British Architects drew attention to its dedicated department for foresight and future studies, entitled ‘Building Futures’. See <http://www.buildingfutures.org.uk>.

It is worth noting that individuals, as well as organisations, can carry out futures work. White (2000:75–87), for example, provides a useful summary and synthesis of a variety of publications on education futures. Halpin (2003:106) sets out a discussion ‘the social revolutions of our time’, which constitutes a useful overview of the main possible drivers of change. Lucas and Greany (2000:vii-xvii) provide an overview of the changes that make up the ‘learning age’. In an article entitled ‘*Glimpse of Tomorrow*’, Mortimore describes his vision of schools in the twenty-first century. He poses five questions about the future of schooling, with a timescale of 100 years (Mortimore, 1994:11–13).

1. Will technological developments make a difference?
2. Should school continue to exist as entities in their own right?
3. Should pupils be organised in specific age cohorts?
4. Should schools be selective on any criteria?
5. Should schools deal with a vocational as well as an academic curriculum?

What is particularly interesting about Mortimore’s discussion is the tendency towards ‘conventional’ answers to these questions, a tendency acknowledged by the author himself:

In this short article, I have posed some radical questions but, on the whole, responded with conventional answers. Perhaps this is because I cannot see beyond the current status quo. It is also, however, because I believe that current models of schooling have considerable strengths and will probably survive for a considerable time.

(Mortimore, 1994:13)

This chapter has shown that there are a number of different approaches to educational futurising and that a range of organisations have engaged with such work, though much of this tends to be at a broad, generalised level and emphasises possible futures. In this sense, much of the organisational work is rather more ‘dramatic’ and far reaching than Mortimore’s individual perspective: the latter provides a useful cautionary note, perhaps, for anyone about to embark on ‘radical’ futures work in relation to teaching and learning.

4 TEACHERS' ROLES AND SKILLS

This chapter considers publications that have something to say about the changing demands being made of teachers, particularly at a societal or a cultural level and considers the implications of these for teachers' roles and skills. It also looks at recruitment and retention in the profession, an area that clearly has important implications for the future of teaching and learning.

4.1 Changing demands on teachers

Changes in teachers' roles are often described within the context of wider patterns of social, economic and cultural change. In his foreword to Andy Hargreaves's (2003) book *Teaching in the Knowledge Society*, Hopkins argues that 'the future poses radically different challenges to those faced at the foundation of education systems and that is why we require a qualitatively different approach to teaching in the twenty-first century'. He emphasises three challenges in particular:

1. changes in the demands *on* young people
2. changes in the demands *of* young people
3. the challenge of *how* we teach.

His view is that 'These challenges require that teaching in the twenty-first century embraces not only the transmission of information, but also learning how to learn, horizon-broadening and teacher development' (Hargreaves, 2003:xi).

Hargreaves makes clear that future demands and opportunities for the teaching profession will be shaped by the nature and complexities of 'the knowledge society':

We live in a knowledge economy, a knowledge society [which is] stimulated and driven by creativity and ingenuity. Knowledge society schools have to create these qualities, otherwise their people and their nations will be left behind.

(Hargreaves, A., 2003:xvi)

The implications of this for teachers are clear: 'In their preparation, their professional development and their working lives, today's teachers must get a grasp of and a grip on the knowledge society in which their pupils live and will work' (p.xvii).

Hargreaves argues that this will involve two challenges for teachers: on the one hand, ensuring that their pupils 'promote and prosper from the private goods of

the knowledge economy’ and on the other hand, helping their pupils ‘commit to the vital public goods that cannot be taken care of by the corporate interests of the knowledge economy’(p.xviii).

The importance of wider socio-economic changes is highlighted by other commentators. West-Burnham (1999), for example, focuses on four key influences as determinants of change in the future of school teaching:

1. performance-driven accountability
2. focus on learning
3. social and economic change
4. information and communications technology.

As a consequence, it is argued that, ‘teaching in the future may have some or all of the following features:

- less emphasis on age or subject-bounded teaching
- greater emphasis on the meta-cognitive aspects of learning
- more time working with individuals and small groups
- far more cooperative activity with qualified teachers leading teams of learning facilitators (including students)
- ICT will be fundamental to all learning and teaching activities
- a more sophisticated approach to personal and interpersonal effectiveness
- the cognitive curriculum having higher status than the knowledge-based curriculum’ (p.23).

A similar kind of picture is presented in the LSRC’s (forthcoming) work on Scenarios for Post-16 Learning. In relation to the future of post-16 teaching and learning, it identifies five drivers of change:

1. technology
2. consumer expectations
3. staff shortages
4. the urgent needs of disaffected learners
5. private sector competition.

In connection with these, the authors argue that:

Learning and teaching methods will... become more computer-based, with greater autonomy for individual learners. Educators will be more customer-focused. Professional staff will be responsible for a larger number of learners, aided by better-qualified assistants. Disaffected learners will be wooed by more attractive learning experiences and by demonstrable links between learning and better jobs. Private sector providers will put pressure on the state to raise its game.

(LSRC, 2003:39)

This underlines the ways in which societal and technological change is expected to place new demands on teachers and their roles within schooling and education.

4.2 Changing roles and skills

Within the educational futures literature, there is widespread agreement that the role of the teacher is changing and will continue to change. One recurring theme is to emphasise the transition from teacher as disseminator of knowledge to teacher as manager of knowledge: 'The role of the teacher [will be] characterised as "learning manager" – helping learners to structure their own learning and make it relevant to the world outside the school' (LGA, 2000:5).

This notion of facilitation is elaborated on by several authors writing about the future of teachers and teaching. Evans (2000), as part of an edited volume on Schools in the Learning Age, envisages teachers ceasing to be 'the founts of all knowledge' and instead becoming 'facilitators, guiding students to how and where they can access the required information' (p.110). Her view is of teachers as 'coaches [who] would seek to develop students' initiative, analytical and thinking powers' (p.110). Along similar lines, West-Burnham (1999) sees teaching in the school of the future as being focused on 'the learning of the individual rather than the delivery of the curriculum' (p.24). Underlying this is the view that:

Teachers will have to become expert not in teaching as an activity but in diagnosing how individuals learn and then designing bespoke learning strategies [... for ...] The central issue for teaching in the future is the extent to which it facilitates profound learning both as a means of enhancing formal academic success and creating autonomous, lifelong learners.

(Evans, 2000:23)

From the perspective of teachers themselves, responses to an IPPR/GTC/FEN online survey entitled 'Visions for the profession', indicate that teachers are very much aware of their changing roles. In particular, the roles of manager, enabler and facilitator are emphasised:

Underpinning all of these new roles for teachers was a sense that in the future teachers should... see themselves as enablers. As their role expands beyond its traditional remit of information dissemination, they will need to acquire and develop their capacities as facilitators of learning.

(Reed and Hallgarten, 2002:182)

In relation to the skills of teaching in the future, evidence is available from Riley's research study on behalf of the GTC, which posed the question 'What does it take to be a good teacher in the 21st century?' (Riley, 2003). With the aim of exploring how teachers see themselves and the future of their profession, Riley involved 150 teachers, support staff, parents, pupils and headteachers in

a card sort exercise concerning teacher professionalism. (Details of this exercise and of the study's findings, are on the GTC's website at: <http://www.gtce.org.uk/research/attitude.asp>).

The respondents who took part in Riley's exercise 'emphasised the skills and attitudes of our future teachers, rather than their subject knowledge'. The most important skills and attributes that a teacher should have were identified as follows:

- enthusiasm and energy
- flexibility and adaptability
- openness and an encouraging approach
- sense of humour
- creativity, imagination, divergent thinking
- an excitement for teaching
- confidence and firmness
- resilience, flexibility, innovation
- emotional intelligence
- willingness to recognise the role of other adults in developing children as learners.

It seems likely that teachers will have to consult pupils more often in the future and MacBeath and his colleagues have put together a package for this purpose entitled *Consulting Pupils: A Toolkit for Teachers*. This arose from a project that was part of the ESRC's Teaching and Learning Research Programme and constitutes 'a collection of practical strategies for consulting pupils' (MacBeath *et al.*, 2003). There are a number of studies that discuss pupils' views of teachers. Recent examples are White (2000) and Burke and Grosvenor (2003).

Reed and Hallgarten (2002), in considering over 500 responses to the online survey regarding the future of the teaching profession mentioned above, report that:

In reference to the skills needed by the teacher of the future, answers frequently suggested a need for a capacity to think about the bigger picture. This indicates a belief that teachers will be more empowered to contribute to future decision making.

(p.171)

In this same survey, respondents 'envisioned a profession that has time to be more child-orientated or even child-led' (Reed and Hallgarten, 2002:173).

On the issue of the skills required for teaching in the future, a point emphasised by several authors is the need to see skills within a broader image of the teacher as a whole person. Day (2000), for example, sees a focus on teaching skills as

too narrow. Instead, he argues for:

... a public recognition that effective learning involves, essentially, an 'interactive chemistry' between learner and teacher; which depends on process as much as content and is an expression of personal values and perceptions as much as competencies and knowledge.

(Day, 2000:108)

In other words, the concern is not so much with having skills, but rather with being able to use them wisely through the exercise of 'pedagogical judgement' (p.108).

Related to this is the argument that 'Perhaps the most important issue facing the teacher of the future is the notion of becoming a lead-learner' (West-Burnham, 1999:24). This assumes and suggests that:

Teaching and supporting learning, will be most effectively provided by people who are themselves highly effective learners, who are actually learning and who understand what it means to be unsure, to experience failure and success, to learn from others and to be engaged in a systematic process of long-term development.

(West-Burnham, 1999:24)

A similar point is made by Horne (2001) who argues that in order for teachers to be able to shape change, 'continuous professional learning must become the central characteristic of teacher professionalism and an integral part of any overall approach to change across the school system' (p.10). This has obvious implications for teachers' professional development and teachers as researchers (see chapter 10) and their relationship to the curriculum (see chapter 8).

4.3 Recruitment and retention

Equipping teachers with the new skills that they will need is obviously linked to recruitment and retention within the profession. Johnson and Hallgarten point to the importance of attracting new recruits to teaching and they argue that, in this respect, 'the government is right to concentrate on workload as the most unattractive feature of the profession' (2002:1).

In an earlier IPPR paper that sets out the aims of a planned study on 'The future of the teaching profession', Johnson notes that there may be a need to recruit new teachers from particular social groups or from other occupational backgrounds:

The importance of recruiting more male and minority ethnic teachers will be investigated.... Looking further ahead, the long-term recruitment challenge necessitates a study of the possibilities of a more flexible profession, with greater flow between teaching and other professions.

(Johnson, 2001:11)

In another paper arising from the same IPPR study of recruitment and retention in the teaching profession, the researchers ask an important question about the role of ‘other educators’:

How can the increasing use of other adults in schools enhance the role and status of teachers and genuinely transform pupils’ learning? How can other educators be attracted into the teaching profession?.

(IPPR, 2001:20)

Horne (2001:9), writing for DEMOS, goes so far as to argue that: ‘Teaching has become an unsustainable profession. The current crisis in recruitment and retention is long-term, not cyclical’. To address this problem, there needs to be acknowledgement that:

The most influential factors, alongside pay, in recruiting teachers and determining whether they stay in the profession are the perceived quality of their working conditions and their opportunities for professional creativity and autonomy.

(Horne, 2001:9)

Teachers need classroom assistance as well as classroom assistants. In other words, improving professional autonomy and reducing teacher workload should be priorities, but at the same time, ‘All classroom teachers should have full-time support from a teaching assistant’ (Horne, 2001:53).

4.4 Summary

This chapter has mapped out work that relates to the broad context within which teachers’ roles and skills will change. It has shown that there is widespread agreement on the notion of the teacher becoming more of an enabler, facilitator or learning manager. Recruitment and retention, the reduction of teachers’ workload and the employment of more (and more various forms of) support staff are linked and these are all aspects of teaching as a workforce that are likely to receive considerable attention in the literature in the next few years.

5 SUPPORT STAFF

The previous chapter indicated that there is almost-universal recognition that the role of the teacher is changing and will continue to change. However, the important qualification that is sometimes added is that teachers will need to have the requisite time, space and energy in order to be able to take on and adapt to these new roles. White expresses a commonly-held view when he states that: ‘We need to enable our many excellent teachers to have more time for teaching by releasing them from much of the routine administration that drains energies’ (White, 2000:174).

This chapter outlines examples of publications that address issues relating to the reduction of teacher workload and the related area of the potential rise, both in numbers and in importance, of the ‘para professions’ in education, including classroom assistants.

5.1 Reducing teacher workload

One of the ways of reducing workload, as teachers move towards more facilitative, managing and enabling roles, is to re-allocate some aspects of the their role, particularly the administrative and clerical functions, to other educational professionals. Such changes are already being put in place in England and Wales via the Re-modelling of the School Workforce agreement (see below).

The purpose of the transfer of administrative and clerical tasks ‘is to ensure that teachers are carrying out only those tasks that require their professional skills and judgement’ (SHA, 2003b:2). Eventually, if the workforce proposals are successfully implemented, short-term absences and invigilation in schools will be covered by a ‘new breed of high level teaching assistants’ (SHA, 2003a:2). The teacher associations stress, however, that schools will need to plan for these changes and that a major cultural shift is required:

This cultural change involves not only an improved, mutually supportive relationship between teachers and support staff, but also the focusing of teachers’ work on teaching and learning and away from administrative tasks.

(SHA, 2003b:2)

The recruitment of support staff of various sorts will contribute to what some writers call ‘diversification’ in the educational professions.

5.2 Diversity of educational professions

The other educational professions, i.e. those that do not comprise of fully-fledged classroom teachers, could include classroom assistants, technicians, personal advisers, learning mentors, language assistants, voluntary helpers, community workers, consultants, bursars and administrators.

Considerations of the roles and statuses of these new para-professional groups, along with discussions about the potential relationships between teachers and the new groups, feature in many futures publications. There is considerable agreement that teaching in the future is likely to involve teachers in collaboration with a range of other individuals. Along with several others, Lucas and Greany (2000:xvi) predict that: ‘Teachers will need to be supported in their role by a far more comprehensive set of learning intermediaries and support workers than at present’. A similar view is expressed by West-Burnham (1999:24): ‘The role of the teacher is to provide overall coordination of the learning programme in conjunction with a range of colleagues (of equal status) who are trained and developed in specific areas’.

The Local Government Association’s discussion paper setting out a vision of education in 2020 anticipates the further development of changes that are already taking place in terms of the composition of the educational professions:

The education profession is more open and fluid. There are a wide range of people working in schools in 2020 – classroom assistants; ICT professionals; administrative staff; personal advisers; volunteers and parents. New strands of the teaching profession have developed, with part-time specialist teachers and highly paid super-teachers employed to prepare learning materials for use by others.

(LGA, 2000:6)

Aspects of the LGA’s vision are already materialising via the ‘Re-modelling of the School Workforce Agreement’, signed by the DfES, the Welsh Assembly and all the main teaching unions (except the National Union of Teachers) in January 2003. The implementation of this national agreement from 2003 to 2005 will undoubtedly provoke further discussion about the roles of support staff. The stated aim of the agreement is as follows:

To raise standards and to reduce teacher workload (and thereby to improve recruitment and retention) by means of a phased programme of contractual changes and the deployment of support staff in greater numbers and in extended roles.

(SHA, 2003a:1)

The main aspects of the agreement, which will impact upon teacher and support staff roles and duties, include the following (SHA, 2003b):

- the transfer of administrative and clerical tasks from teachers to support staff (referred to as ‘the 24 tasks’)

- the provision of contractual leadership and management time for senior school staff
- the reduction of workload to ensure a suitable work/life balance for school staff
- the gradual removal of the duty of teachers to cover lessons for absent colleagues
- the provision of protected, identifiable, Planning, Preparation and Assessment (PPA) time: this will be at least ten per cent of a teacher's timetabled teaching time from September 2005
- moves towards invigilation being carried out by support staff.

5.3 Summary

At the time of writing, these changes are in the process of being implemented. Consequently, they are either very new or have yet to be put in place and it is evident that many organisations (excepting some of the unions and professional associations) have not yet had a chance to consider the implications of these changes at either a professional or an individual level. Theoretically, at least, these changes should make teaching a more attractive profession – but it appears that there needs to be much more discussion about the implications of these developments from a variety of occupational perspectives.

6 LEARNERS AND LEARNING

One of the recurring ideas in much of the literature on the future of teaching and learning is the belief that the learner should be at the heart of future developments. This comes out very strongly in a number of the documents and books featured in this mapping exercise. This chapter pays particular attention to what the literature says about the changing roles and requirements of learners.

Viewpoints expressed in the literature suggest a strong tendency towards ‘customised’, ‘individualised’ or ‘personalised’ learning. This tendency fits with the emphasis on teacher as facilitator, enabler, or learning manager, as discussed in chapter 4. The nature of learning in the future can be conceptualised in terms of three dimensions of change:

- the characteristics and expectations of future learners
- the demands that will be placed on future learners
- new approaches, foci and contexts for learning.

6.1 Characteristics and expectations of future learners

A point widely argued in the futures literature is the idea that educational organisations and practitioners will encounter significant changes in the demands and preferences of young people. This argument sees powerful connections between changes in, for example, consumer culture and students’ responses to school, the curriculum and modes of teaching and learning. This is well illustrated by the LSRC’s (forthcoming) work on scenarios of post-16 education and training. One of the key drivers for change over the next 20 years is seen to be ‘consumer values [as] learners will continue to be steeped in the consumer culture, but that culture itself is undergoing rapid change’ (p.42). Two trends, in particular, are emphasised:

- the shift from mass consumption to mass customisation: ‘In the it-must-fit-me world, individuals will expect learning to fit them exactly, too’
- a highly visual and immersive consumer culture: ‘The twenty-first century’s visual culture will foster intuitive rather than rational modes of thought, impressions rather than logic, thinking in parallel rather than in sequence, pictures rather than paragraphs’ (p.42).

Whatever form the consumer culture may take, it seems certain that educational professionals will increasingly have to take more account of the views of pupils

and other age groups of learners. There are a number of publications that give examples of such views and discuss how these might shape teachers' future roles.

6.2 Demands that will be placed on future learners

A recurring message throughout this report is the idea that 'The demands on young people and challenges facing them in the twenty-first century are vastly different from what they were' (Hopkins, 2003:xi). This relates to notions such as the knowledge society (Hargreaves, A., 2003), the network society (Selwyn, 2003; Castells, 1996), the information age (Bentley, 2000) and the learning age (Lucas and Greany, 2000). Bentley sees this in terms of 'a transformation in the status and role of knowledge in society, leading to a very different set of demands and challenges for individual learners' (2000:57).

Within the literature, there seem to be two main arguments for new forms of (life-long) learning in the future. The first can be characterised as the economic case. Or, in Hargreaves' terms, teaching and learning for the knowledge economy:

In the knowledge economy, wealth and prosperity depend on people's capacity to out-invent and outwit their competitors, to tune into the desires and demands of the consumer market and to change jobs and develop new skills as economic fluctuations and down-turns require.

(Hargreaves, 2003:xviii)

In addition to this there is another argument for new forms of learning. This can be thought of as the social/cultural case and is more concerned with the need for learners to develop 'a set of values, dispositions and senses of global responsibility that extend beyond the bounds of the knowledge economy' (p.xix).

These two contrasting bases for new kinds of learning in the future are echoed by Bentley (2000:57):

The challenge is best summed up in the idea that individuals must become effective lifelong learners in order to thrive. This matters not just for our economic prospects in future labour markets, but also for our roles as parents and citizens and our capacity to achieve fulfilment and personal autonomy.

Put another way, 'We need to learn effectively, not just to manage change, but also to take control of it' (Lucas and Greany, 2000:xi).

6.3 New approaches, foci and contexts for learning

In the view of changing learners and changing societal demands, there is considerable consensus that learning will be qualitatively different in the future. A key theme in the literature is the notion of 'lifelong learning'. This raises important questions about when and where learning takes place. There seems to be widespread acknowledgement that both the temporal and the spatial dimensions of learning will need to be conceived in far wider and more flexible terms. Put simply, learning needs to be understood as a process that is not restricted to the years of formal education or the confines of schools and colleges. In his paper 'Knowledge, learning and the curriculum of the future', Young (1999) emphasises precisely this point:

Making lifelong learning a reality will undoubtedly demand new theoretical developments which focus on the concept of learning and on the new relationships that will be necessary between school learning and learning that takes place elsewhere.

(p.472)

Connected with this, is the argument that there will need to be a stronger focus on developing the skills of learning to learn or 'learnacy'. This would involve:

an explicit focus on the skill of learning to learn, giving pupils structured opportunities to explore the cognitive processes involved in learning and helping them to understand their own particular blend of intelligence and learning style and how they should develop these.

(Lucas and Greany, 2000:xiii)

Such ideas are based on an understanding of intelligence 'as something that is multi-faceted and latent in every individual' (Lucas and Greany, 2000:xviii) and a recognition that 'We know much more about the mind than we did a hundred years ago and one of the most important things we know is that learning itself is learnable' (Claxton, 2000:7).

Linked with ideas about learning to learn is the importance of the range of new learning skills. A recent Local Government Association's discussion paper, *Education in 2020*, stresses the need to develop new learning skills. Their vision for education in 2020 includes the belief that: 'education is redesigned to help children develop the problem-solving skills and creative abilities necessary to participate in the knowledge economy and play a full part in society' (LGA, 2000:1). The LGA's view is that '2020 education is fun and relevant to learners. As students progress through the school system they have increasing control over what and how they learn' (p.4).

For Bentley (2000), two crucial foci for learning in the future are 'creativity' and 'community'. These, he argues, are important for different reasons.

- Creativity. [This] matters because possessing knowledge in the information age is not enough, for individuals or for organisations: only those who are able to apply it in new and valued ways will be able to respond effectively to the demand and opportunities of the era.
- Community. Learning is an activity embedded in social relationships and values. ... Communities therefore matter for two reasons: first, they provide a wider context from which learners can draw guidance, motivation and meaning for what they are trying to learn. Second, the communities surrounding schools and colleges can provide resources for learning which are frequently untapped.

On this basis, Bentley sees creativity as the guiding purpose for ‘a sustained transformation of the education system’ (p.62). He highlights four characteristics as ‘a foundation for a lifelong learning agenda which cuts across our existing institutional and conceptual boundaries’:

1. the ability to formulate new problems, rather than depending on others to define them
2. the ability to transfer what one learn to different contexts
3. the ability to recognise that learning is incremental involving making mistakes
4. the capacity to focus one’s attention in pursuit of a goal (p.62).

A major factor influencing the realisation (or otherwise) of such learning in the future will be technology (see chapter 9). As argued by the LSRC (2003), ‘The next decade will be a time of experimentation, as educators try different ways of using ICT to enhance the learning experience’ (LSRC, 2003:40). With this, will come a number of changes in learning throughout the education system:

- more self-directed learning
- more collaborative learning on-line
- more experiments with on-line support using the equivalents of call centres
- new forms of continuous on-line assessment, with automated record-keeping
- the further development of peer-led group work in class, with teachers and their assistants acting as trouble-shooters, but in larger classes. (LSRC, 2003:44)

The introduction of mobile technologies may also change the contexts of learning:

The ability to communicate and access information on an 'anytime, anyplace' basis has temporal and spatial implications for the way that young people conduct their lives.

(Selwyn, 2003:135)

The existence of a 'mobile generation' will have consequences for what Selwyn calls 'the fixed school': learners may 'no longer need the school to physically facilitate their use of ICT' (p.137). Even in 1994, Hargreaves said that, in a general sense, 'Students ... should be on the move. There is no good reason why students spend so much time in schools' (Hargreaves, 1994:27).

Another important perspective on future learning is the need for greater appreciation of the importance of the environments in which learning takes place. Important questions are being asked about the appropriateness of current school buildings, classrooms and grounds for facilitating young people's learning. As Bentley *et al.* (2001) have argued:

Despite the recognition that design has a real impact on organisational performance, the situation in schools is in predictably sharp contrast to that of the business world [where] the evolution of new patterns of organisation ... have been accompanied by concomitant, ongoing redesign of their environment.
(p.19)

The DfES publications *Classrooms of the Future* (2003a) and *Schools for the Future* (2002a) also acknowledge the importance of design and architecture as contributors to the learning environment. The latter publication spells out how the physical environment can stimulate and encourage educational activity:

A good learning environment should be functional, humane and attractive. By raising pupil and staff morale such an environment can have a number of benefits, including contributing towards more effective working, reducing poor behaviour and encouraging older pupils to stay on at school. It will also encourage community and business use...
(DfES, 2002a:36)

These concerns are echoed by students' own reflections on an education for the twenty first century (Burke and Grosvenor, 2003). Critical perspectives are voiced in relation to both school buildings ('A safe haven, not a prison') and school yards and playgrounds ('It's very big but there's nothing in it').

6.4 Summary

This chapter has identified that there is a consensus in the literature in the sense that there is a strong view that the learner should be at the heart of the educational process. There is more variation, however, in terms of the identification of what form the future learning environment should take and what the key drivers of this will be, with discussion embracing such influences as the economy, society, new technologies and the physical environment.

7 INCLUSION AND INEQUALITIES

After posing a number of key questions about how schools will shape up in the twenty-first century, Mortimore (1994) emphasises that current models of schooling have ‘considerable strengths’ and if there is any room for improvement it is in attitudes to learning: ‘More positive attitudes towards learning in our society and greater aspirations for the achievement of higher standards by all learners, are essential’ (p.13). In this sense, Mortimore astutely anticipated the ‘inclusion’ agenda, which developed in the years following the publication of his article. In addressing the future needs of learners, several writers emphasise the importance of meeting the requirements of all ability and/or all socio-economic, gender and ethnic groups. Future progress, according to these viewpoints, depends upon how much attention is given to issues of inclusion and inequality.

7.1 Inclusion issues

In the early years of this century the ‘social inclusion’ agenda remains strong and the need to work for the future benefit of all learners is a point made by several writers. Stephenson (2000) describes why inclusive learning is of crucial importance for the future: ‘Education is the universal service for children and young people and, because of this, it is arguably the central dynamic of social inclusion’ (p.36). He continues, ‘fundamental change is clearly necessary and the concepts of exclusion and inclusion offer real opportunities and practical benefits to all who engage with learners’ (p.38). Stephenson uses the phrase ‘connectivity’ to summarise some of his ideas about the most effective ways of ensuring inclusion for all learners (p.40):

An inclusive system, focused on enabling young learners to make and maintain their own connections to learning, needs to be built through three key areas:

- a connective curriculum
- a connective pedagogy
- connective professionals.

How can these be brought about in the future? Stephenson makes a number of practical suggestions and in this sense goes beyond much futures work, based on a view that ‘The school has a critical role as a web of connections and in putting inclusion at the heart of its culture, policies and practice’ (p.41). Personal, health and social education is important in helping pupils to prepare for their roles in life and, in addition, ‘ICT represents an enormous opportunity to connect young people firmly to learning’ (p.40). There is also a need for a

new kind of educational professional, 'a learning broker'. Some policy reforms have already anticipated this requirement: Learning Mentors, Young Person's Advisers and New Deal Advisers may be the forerunners of learning brokers (p.42).

Mention should also be made here of the DfES's Aim Higher programme (formerly Excellence Challenge) which aims to encourage more children from poorer backgrounds to go to university. The LSRC (forthcoming) also provides information on how to address the future needs of disaffected learners.

7.2 Addressing inequalities

As noted above, the literature featured in this mapping exercise makes frequent reference to the need to ensure that the requirements of all learners are met in future years. In addition, there are many mentions of barriers to learning and discussion on how these can be overcome. There are also some references to the importance of serving the needs of learners in areas that are socio-economically deprived, particularly in relation to specific policies, such as Excellence in Cities, which have the aim of raising achievement in schools in such areas.

Many organisations and individual writers indicate that problems arising from social deprivation may constitute the biggest barrier to learning in the future. The Local Government Association, in *Education in 2020*, for example, notes that reports from the government's Social Exclusion Unit have explained how 'the multiple problems faced by children in deprived areas throw up barriers to learning that can be extremely difficult to overcome' (LGA, 2000:2). This paper also notes the continuing possibility of a 'digital divide': the education system in 2020, 'will need to counter the risks that developments in ICT will exacerbate the current divisions in society and lead to new forms of social exclusion' (LGA, 2000:3).

Some attention is also given to funding and resourcing issues in the literature, for example to funding inequalities by locality or by type of school. White (2000) argues that there is 'a need to grasp the issue of inequality. There are huge differentials in resourcing between independent schools and the state sector and between schools within the state sector' (p.176).

Bentley suggests that formal education can actually exacerbate underachievement in demotivated, disengaged learners. The way to deal with this in the future is to break down the boundaries between formal and informal learning:

Opening up spaces for learning, in which the atmosphere bridges a gap between formal, structured learning and informal, unorganised, unsupervised and unsupported activity is a crucial foundation for attracting those at risk of

underachieving towards purposeful, self-motivated learning and towards realising the full benefits of participation in formal education.

(Bentley, 1998:82)

Successful strategies for dealing with underachievement cross the boundaries of different professions and different services:

Tackling underachievement, which begins with a focus on the individual learner, their motivation and strengths, as well as their weaknesses and barriers to success, depends on expanding outwards to include the whole learning environment and the full richness of resources it has to offer.

(Bentley, 1998:98)

7.3 Summary

The futures documents and articles featured in this mapping exercise offer some interesting ideas in terms of how to deal with issues of underachievement. Many, including some of those mentioned above, discuss inequalities and barriers to achievement in the broadest, most general sense. Emphases on the future educational needs of particular groups, such as boys or girls, or minority ethnic groups, or children with Special Educational Needs, are actually fairly limited. This is understandable, given the very broad nature of futures work.

It seems that issues relating to the future needs of particular groups of learners receive much more attention in the more specialised (non-futures) educational literature, i.e. in the work that directly addresses underachievement by gender, ethnicity or socio-economic groupings, than in the literature mapped out here. There are possibly some gaps in the futures literature in this area: perhaps there is a need for more forward thinking and scenario-building activity focused on the needs of learners in particular groups or localities.

8 CURRICULUM

Not surprisingly, the curriculum is the focus of considerable attention within the literature on the future of teaching and learning, as pointed out by Young (1999):

Modern societies rely on the school curriculum to give each generation access to existing knowledge. All curricula therefore must to some extent be 'of the past' ... The issue is the extent to which the present balance of priorities between reproducing the past and prefiguring the future needs to change with changing circumstances.

(p.469)

The future of the curriculum, then, can be considered in terms of:

- future challenges for the curriculum
- future changes to the curriculum.

8.1 Future challenges for the curriculum

As part of a recent Universities Council for the Education of Teachers (UCET) publication *The School Curriculum Ten Years Hence*, (Convey, 2002) situates questions of curriculum within a range of wider debates relating to social, economic and cultural change. Both Lawton (2002) and Elliott (1998) cite the work of Posch (1994) as specifically relating social and economic change to the need for reforms in curriculum and pedagogy. The challenges highlighted by Posch are summarised by Lawton (2002) as follows.

- Attitudes to authority in society generally make it necessary for schools to change the curriculum away from a 'culture of predefined demands' to one which is open to negotiation and discussion.
- Other social changes may result in students ceasing to see teachers as relevant guides for their futures. This challenges teachers to create learning situations which provide new conditions of trust.
- Current economic and social conditions seem to be not only complex but often beyond control. Teachers need to be able to encourage students to develop techniques to cope with the unstructured situation of everyday living.
- We live in a 'risk society'. Teachers need to be able to help students to understand and evaluate risks in their own environment, making use of relevant scientific and technical knowledge.

These ideas are echoed and elaborated by several other authors concerned with curriculum futures. Halpin (2003), for example, talks about 'the social

revolutions of our time’ in terms of four all-engulfing societal processes:

- the influence of intensifying globalisation
- the expansion of social reflexivity and individualisation
- the emergence of a post-traditional social order
- the increased sense of living in an uncertain, precarious, risk-satiated world (p.106).

These, he argues, ‘demand a fresh curricular response from schools’.

Others highlight the following kinds of social changes as important influences on future curricula:

- Britain’s pluralistic society and ‘how to find some social cement to ensure that people with different moral, religious and ethical values as well as social, cultural and linguistic traditions can live together with a degree of harmony’ (Hargreaves, 1994:31)
- shifts in consumer cultures towards greater customisation and stronger emphasis on the visual (LSRC, 2003)
- the challenge of sustainable development which, crucially, is as much a crisis of education, as it is a crisis for education (Sterling, 2001).

8.2 Future changes to the curriculum

In response to these various changes and challenges, a wide range of future curriculum directions are suggested within the literature.

One viewpoint is provided by Young (1998, 1999) who draws a distinction between two kinds of curriculum.

A Curriculum of the Past, which:

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

A Curriculum of the Future, which:

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

- has a focus on the creation of new knowledge as well as the transmission of existing knowledge
- places an emphasis on the interdependence of knowledge areas and on the relevance of school knowledge to everyday problems (Young, 1999:470).

Young makes clear, however, that a curriculum of the future perspective necessitates changes in our understanding of the locus and scope of a curriculum. In particular, 'For a curriculum to promote lifelong learning it is clear that there will have to be a shift in focus from the school to relationships between learning at school and learning in non-school contexts' (p.470). Young's (1999) vision is of a curriculum that 'would treat school learning, learning at work and lifelong learning as related aspects of a learning society's goals' (p.475).

This connects with another theme within the futures literature, namely consideration of the academic and vocational dimensions of the curriculum. A question relating to the future explored by Mortimore (1994) was: should schools deal with a vocational as well as an academic curriculum? On the basis that 'learning appears to use the same processes and mechanisms regardless of its content', he argued for the 'end of the artificial distinction between vocational and academic education'. This is echoed by several others, including Lawton (2002) who states that 'We need a curriculum which gets beyond thinking in academic and vocational terms' (paper 1, part 1).

Another view of the curriculum in the future is in terms of closer links between curriculum and pedagogy. Drawing on curriculum development projects such as the OECD Environment Schools Initiative (ENSI) and the Schools' Council Humanities Curriculum Project, Elliott (1998) argues for 'a pedagogically driven curriculum framework' which sees the curriculum as 'an innovative experiment to be carried out by teachers' (p.160). He sees such a framework comprising:

- a classification of the kinds of complex problems and issues which impact on people's lives, such as environment, health, law and order, sexuality
- a specification of the pedagogical aims and principles which ought to govern a learning process that focuses on the problems and issues of everyday living
- an interdisciplinary, hypothetical and provisional specification of core subject content in relation to each life-theme for teachers (and students) to test experimentally in the teaching-learning process
- a specification of guidelines for a process of action research by teachers to enable them to develop strategies for realising pedagogical aims and principles in practice (pp.156-8).

Underpinning such a framework is a view of the curriculum as 'an innovative experiment ... which is open to being continuously developed by teachers, as

they devise and test pedagogical strategies'. This connects with the discussions relating to the importance of teachers' pedagogical judgement in chapter 4 and the idea of ongoing professional development in chapter 10.

Another strong theme is that of citizenship. Writing in 1994, Hargreaves suggested that:

The increasing collapse of community social controls and shared moral and religious values combined with the failure of 'law and order' measures to stem high crime rates, especially among the young, could encourage the provision of moral and civic education in all schools.

(Hargreaves, 1994:40)

Since that time, there have been widespread developments of citizenship as a statutory part of the aims and the content of the national curriculum. One of the scenarios explored in a recent QCA scenario-building exercise was focused specifically on citizenship, envisioning that:

Most people would agree that the major policy aim is for education to provide all young people with the skills and attitudes they will need to become active citizens, contributing more to their communities both socially and economically.

(QCA, 2002: Scenario B:1)

This is seen to manifest itself in terms of a stronger focus on schools 'increasing their contribution to local community generation' and finding 'new ways to develop community participation as part of teaching and learning' supported by local groups and business people as well as ICT. Furthermore, 'the emphasis on community learning calls for new approaches to school organisation, the curriculum and assessment and the harnessing of ICT' (QCA, 2002: Scenario B:1-2).

The issue of subject specialism is another aspect of the curriculum that is noted. This is certainly an issue for young people themselves. Responses to *The Guardian's* 2001 'The School I'd Like' competition indicate that :

Today's children are acutely aware of [the organisation of learning by subject boundaries] and suspect that such rigidity is not beneficial to them or to society... They describe new forms of organising knowledge around interdisciplinary thematic terrains or dimensions... They call for a curriculum driven by curiosity, adventure and collective endeavour... They appear impatient and eager to explore and contribute to all of human knowledge and experience, rather than simply receive the dry, sterile, subject-driven version presented to them. (Burke and Grosvenor, 2003:58)

A similar argument is made by the Royal Society of Arts' (RSA) Opening Minds project. This argues that while 'education must give young people access to a rich mix of subject knowledge ... it should also place much more emphasis on the development by the individual of competences' (Bayliss *et al.*, 2003:7).

This project found that ‘placing competences at the centre of the learning experience demands new approaches’, not least an integration of context across subjects (p.9).

Halpin (2003), drawing on the ideas of Seltzer and Bentley (1999), considers the question of curriculum subject in relation to the need for creative lifelong learning. Very briefly, he proposes ‘a form of the school curriculum provision that gives priority to cultural renewal rather than the teaching of subjects’ (Halpin, 2003:121).

8.3 Summary

This chapter has shown that the curriculum is a key area for attention in futures work. Some writers concentrate on the broad future challenges for the curriculum, i.e. the question of how the curriculum will address emerging social, economic and cultural requirements, whereas others focus on more specific changes or recommendations. It is clear that the curriculum is and will continue to be, a contested area. Competing influences include the influence of the past versus future requirements, demands for individual subjects, the demand for new subjects and skills (such as citizenship) and different views on the academic and vocational balance of the curriculum.

9 INFORMATION AND COMMUNICATIONS TECHNOLOGY

A good deal of the work on the future of teaching and learning is written from a technological stance, partially because technological developments are often seen as the most obvious, most visible manifestations of change in this context. There are, for example, numerous publications which look at ‘innovations’ in information and communications technology (ICT) and at what these mean for the roles of teacher and learner. There are also discussions concerning the extent of technological change, addressing the issue of whether and how ICT will ‘revolutionise’ teaching and learning, or whether it is simply just one tool amongst many within schools and classrooms.

9.1 The potential impact of ICT

Not surprisingly, there is universal recognition that there have been major developments in terms of the increased provision and use of ICT facilities. Considerable resources have been allocated to schools for hardware and software, more and more schools are adopting, or planning to adopt, forms of virtual or e-learning and teacher trainees are now expected to have a certain level of ICT competence upon entry to the profession. A recent survey of schools (the Curriculum Online 2003 baseline survey, published on the BECTA website at: <http://www.becta.org.uk/research/reports/col.cfm>) indicated that:

- the average ratio of computers to pupils in primary schools was 1 to 8.0, while in secondary schools it was 1 to 5.2
- most secondary schools (84 per cent) had a broadband Internet connection, but only a fifth (22 per cent) of primary schools had this type of connection.
- nearly all secondary schools (96 per cent) and seven in ten (69 per cent) primary schools had support from professional ICT technicians.

Similar surveys carried out in previous years show that these are considerable improvements on the situation just a few years ago. The ratios of computers to pupils are likely to improve in the near future, but it cannot be assumed that there is a direct link between the increased provision of ICT for teaching and learning and improvement in ‘standards’ and there is a body of literature that is critical of this kind of straightforward assumption (e.g. Davis *et al.*, 1997).

There do seem to be signs, however, that more research on the impact and potential of ICT is being carried out and that, consequently, our understanding of the contribution of ICT to teaching and learning processes will be developed further in the not-too-distant future.

There are numerous books and papers, both practical and theoretical, about how ICT could assist learning (e.g. Baines, 1999; Commission of the European Communities, 2000; DfES, 2002b; Long, 2000; Pachler and Williams, 1999; Scrimshaw, 1997; Higgins, 2003). There are also a number of good-quality studies which have looked at innovations and examples of good practice in terms of ICT use (Cunningham *et al.*, 2003; Harris and Kington, 2002).

The potential contribution of ICT to raised attainment was a focus for the ImpaCT2 study, carried out in 60 schools by teams of researchers from the University of Nottingham, the Open University, Manchester Metropolitan University and the University of Leicester, between 1999 and 2002. This was ‘one of the most comprehensive investigations into the impact of information and communications technology (ICT) on educational attainment so far conducted in the United Kingdom’ (Harrison *et al.*, 2003).

Clearly more studies of this quality and scale are needed in order for us to develop further our understanding of the links between the new technologies and learning outcomes.

9.2 Introducing the new technologies

The ICT Research page of the BECTA website is useful for educational professionals thinking about how they might introduce new technologies into teaching and learning processes. See <http://www.becta.org.uk/research/index.cfm>. Some assessments of the benefits and challenges of using new technology may already have been carried out and these may help with the avoidance of particular pitfalls in the future. Another section, ‘What the Research Says’, contains short briefing papers on clearly-identified topics, mostly with a futures element, aimed at teachers, ICT coordinators and school managers. At the time of writing there were papers on the following topics:

- ICT and reducing teacher workloads
- teacher continuing professional development
- portable ICT devices in teaching and learning
- virtual Learning Environments in teaching and learning
- ICT and motivation
- network technologies in teaching and learning
- interactive whiteboards
- video conferencing in teaching and learning
- strategic leadership and management of ICT in schools
- ICT and initial teacher training
- barriers to the use of ICT in teaching.

There are plans for further papers on ‘Effective ICT Pedagogy’ in each of science, English and mathematics and on ‘Whole School Development and ICT’.

Individuals with queries about the future use of ICT in schools which are not addressed in any of these papers can make a direct enquiry via the BECTA research network. This network ‘seeks to encourage the exchange of information between all those with an interest in research on ICT in education, in order to inform the national agenda and professional practice’. See <http://www.becta.org.uk>.

9.3 New flexibilities

A point that is commonly made in the literature is that the use of ICT will bring increased flexibility in teaching and learning in the future – flexibility, for example, in terms of the curriculum and forms of assessment and with respect to where learning will take place and in the ages and backgrounds of learners:

ICT has the potential to create an education system in which learners are no longer tied to particular locations, institutions or programmes of study. It holds out the possibility of learning tailored far more closely to individuals’ specific needs.

(LGA, 2000:3)

Selwyn (2003) also makes the point that the ‘the mobile generation of learners’ will not be tied to a ‘fixed school’ location.

The new technologies are also likely to bring new flexibilities in relation to the delivery of the curriculum and methods of assessment. Hargreaves notes that:

In curriculum and assessment reforms, the new information and communication technologies (ICTs) will play a key role... ICTs will change both what happens in classrooms and how teachers and students relate to one another. The ICTs might in the medium term have an even greater impact on assessment through computer marking of student work, the provision of tests-when-ready and the use of virtual reality to provide more imaginative assessment tasks.

(Hargreaves, D., 2003:31)

9.4 ICT and the teaching profession

The new technologies will afford teachers new mechanisms and opportunities for networking and sharing good practice: ‘The huge potential of the new technologies as an important part of the infrastructure for innovation networks has yet to be realised’ (Hargreaves, D., 2003:58). Although we still know too little about online communities:

Recent developments, such as those supported by Becta, the Networked Learning Communities in the National College for School Leadership or the Virtual Education Action Zones, will contribute substantial knowledge in the next few years.

(p.63)

A more negative viewpoint is that computers may actually replace teachers, a view rejected by Johnson, in his consideration of issues to do with recruitment and retention and the effects of these on the teacher role: 'The impact of technology on the role is attracting a number of predictions, but more extreme accounts postulating the replacement of teachers by IT are not accepted' (Johnson, 2001:11).

Mortimore (1994) makes some interesting observations about the use of ICT in schools and the impact of this upon teachers' skills. In trying to assess how schools might operate in the twenty-first century, he asks the question, 'will technological developments make a difference?' He notes that 'the pace and nature of developments in information technology... makes change more, rather than less, likely' and this emphasises 'the need for teachers of the highest calibre' (p.11). His main conclusion in response to this question is that 'technological developments will change but not revolutionise learning' (p.11).

9.5 Summary

Overall, ICT is one of the most popular topics for discussion in the futures literature. It is clearly an area that is going to continue to impact upon teaching and learning in significant ways. Most writers agree that, in some shape or form, the new technologies will bring flexibility for both teachers and learners: they will bring useful tools to the educative process. There is less agreement, however, in terms of the impact of ICT upon attainment and this is one area that would benefit from further investigation.

10 TRAINING AND PROFESSIONAL DEVELOPMENT

Training and continuing professional development are of vital importance in terms of shaping the teaching profession and creating and influencing teaching styles. Several key government agencies, most notably the TTA, the DfES and the GTC, contribute to the shaping of initial teacher training and continuing professional development. Futures thinking, understandably, has something of an emphasis on new teachers and initial teacher training, though there have also been considerations of the desired future directions and requirements for professional development more generally.

10.1 Initial teacher training

The TTA website contains a full information section for teacher trainees, though the emphasis understandably is on current rather than future training provision. Areas covered include:

- the skills tests: about the tests, booking and contacts
- qualifying to teach: the professional standards and requirements
- teaching in a diverse society: resources for minority ethnic trainees
- strategies for numeracy, literacy and ICT
- funding for trainees: loans and grants.

With respect to initial teacher training, there has been a move to more school-based and school-led teacher training, which has developed since the 1990s (Hargreaves, 1994:28). There have also been a number of new initiatives that may anticipate future developments in teacher training. These include programmes such as Teach First (<http://www.teachfirst.org.uk>), whereby graduates have a taste of life in the classroom before taking employment in a ‘blue-chip’ company and the Fast Track Teaching programme (<http://www.fasttrackteaching.gov.uk>), aimed at future school leaders.

There are many influences upon the shape and content of initial teacher training and considerable debate about what forms ITT should take. Burgess (2000) analyses some of these influences. She examines the impact of the National Curriculum for initial teacher training (introduced in 1998) and the move from a competence-based to a standards-based approach for such training (Burgess, 2000:405–9). With respect to future developments, in ITT Burgess suggests that: ‘New provision needs to be modular and flexible, allowing for different starting and finishing times for students... Such a strategy promotes diversity in postgraduate training...’ (p.415). She continues:

The interaction between the teacher and the learner is dependent not only on subject knowledge and skills but it is also an expression of personal values and beliefs about teaching. These important components in the programmes of student teachers can only be developed where time for reflection on practice is given space. The processes of teaching need to remain high on the agenda of initial teacher education if it is to produce the inspirational teachers of the future.

(Burgess, 2000:416)

One project in the ESRC's Teaching and Learning Research Programme is looking at the professional development experiences of new teachers. The aim is to produce 'a detailed model of early professional learning which will look at how teachers develop both informal skills and formal knowledge... The project will inform current developments in teacher probation...' (ESRC, 2003:7).

10.2 Continuing professional development

The GTC has a developing role in terms of the provision and accreditation of continuing professional development. For example, it has made contributions through the provision of the Teachers Learning Professional Framework (TLPF). It is also developing a number of professional development partnerships under the heading of the Teacher Learning Academy:

In the past year the GTC has been supporting professional development projects in nine LEAs. These demonstrate how modest amounts of funding and effective partnerships can stimulate and support teacher collegial learning at a local level. Building on this, the GTC is now piloting a scheme of professional recognition for teacher learning with Birmingham, Manchester and Sheffield LEAs, supported by local higher education institutions. The Teacher Learning Academy, as the scheme is called, will provide a nationally recognised framework in which teachers' day to day learning can be recognised and accredited by fellow professionals...

(GTC website at: <http://www.gtce.org.uk/news/featuresdetail.asp?ezineId=112>)

The TTA website has a section on post-training which covers, for example, the needs of NQTs, the use of ICT in the classroom and SEN training needs. See <http://www.tta.gov.uk/teaching/>.

The TeacherNet website includes an area on 'Managing my CPD' which provides background material for individual teachers' use in developing their own CPD and performance management profile. The site offers guidance, for example: 'It will be of particular interest to you if you have responsibilities for guiding colleagues' CPD, for example teaching assistants'. See <http://www.teachernet.gov.uk/professionaldevelopment/managingmycpd/>.

The importance of the need for ongoing professional development, of having a learning profession, in a context of rapid and frequent change, has been emphasised by a number of writers. In the responses to an online survey of 'Visions for the profession', for example, 'Recognition of [the] need for constant renewal was given by the frequent call for teachers to be given time and space for continuing professional development' (Reed and Hallgarten, 2002:178). Riley (2003) suggests that if the aim is to encourage creativity and innovation in teachers, then a 'professional learning' model is preferable to the traditional 'professional development through courses' model.

Johnson and Hallgarten (2002) agree with others that there will be 'more stress on professional development [and] continuous upgrading of skills by reference to research findings and best practice' (p.10). These views point towards the importance not just of the wider backdrop of evidence-based research, but also to concepts such as the 'researcher-practitioner', the 'reflective practitioner' and the 'research-engaged school'.

BERA highlighted the importance of the research aspect of teacher development by issuing a booklet entitled 'Issues and Principles in Educational Research for Teachers' (Campbell *et al.*, 2003). Teacher research tends to be relatively small-scale, but it is a form of investigation that, with support from the relevant agencies, is likely to become much more influential in future years:

For a long time teachers have undertaken studies for Masters' degrees in universities and colleges, as well as small-scale research investigations, often wholly or partially funded by LEAs and schools. More recently other bodies and organisations have emphasised school-based teachers' research, action research and approaches to developing a research-informed and an evidence-based profession.

(Campbell *et al.*, 2003)

The 'other bodies' mentioned here include the Teacher Training Agency, which funded four school-based research consortia from 1997 to 2000 and the DfES which has recently funded initiatives such as the 'Best Practice Research Scholarships'. The authors of this publication make the important point that 'The value of teachers' research, its impact on professional development and the potential improvement of practice have yet to be fully appreciated' (p.2).

10.3 Summary

Overall, not surprisingly, there is consensus that initial and ongoing teacher training is of considerable importance for the future of teaching and learning. There also seems to be agreement that the researcher dimension of the teacher role will become increasingly important. Within this consensus a number of ideas and emphases are put forward and it seems that 'innovation' in CPD is an area that will continue to attract attention in the near future.

11 ASSESSMENT AND ACCOUNTABILITY

This chapter briefly presents some of the main viewpoints relating to examinations, testing, assessment, self-evaluation, inspection and accountability, as they have been expressed in the literature on the future of teaching and learning. These are areas which have attracted much interest in recent years.

11.1 Testing and assessment

The question of how much testing there should be has attracted considerable attention. The use of tests provides teachers and others with much useful data about pupil attainment and there have been improvements in terms of data use and analysis, though there is much variation at school level. The improvements in data use are likely to continue as more sophisticated forms of data analysis are introduced, including the provisions of PLASC (Pupil Level Annual Survey Census), the use of value-added data and the introduction of the DfES's PAT (Pupil Achievement Tracker) software.

However, the teacher unions have expressed some concern over the testing regimes and the associated stresses for teachers and students that have been put in place in recent years. They have made some recommendations about how this situation might be alleviated in the near future. In a briefing paper NASUWT calls for urgent attention to be given to the 'examination and testing overload' that has developed 'over the last fifteen years' (NASUWT, 2002:3). The GCSE examination is also criticised, on the basis that 'no attempt has been made to review its relevance to tomorrow's needs' (p.6).

Testing overload is linked to teacher workload difficulties. The NASUWT expresses 'growing concerns... about the increase in the examinations and testing load on pupils and teachers. It raises important issues about the work/life balance of teachers as employees' (p.12). A number of recommendations about future assessment and testing are made, including the following (p.13):

- league tables based on Standard Assessment Tests 'must be abolished'
- 'there should be an urgent review of the future of the GCSE as a qualification for the twenty-first century'
- more government information should be provided on electronic testing.

The latter point, relating to the potential of electronic means of carrying out testing and assessment, is touched upon by a number of writers, including Pachler and Byrom (1999) and Hargreaves, D. (2003).

Despite these potential developments, White takes a rather pessimistic view of assessment in general, concluding that ‘We need to look at the methods of assessment we use... We need the courage to ask if all this assessment is really worth it’ (p.175). In addition, a number of bodies, including the Secondary Heads Association, have long been working for ‘a coherent qualifications structure’ (Dunford, 2001:132). The Assessment Reform Group has been carrying out work on ‘assessment for learning’.

11.2 Inspection, self-evaluation and accountability

Discussion of the merits and disadvantages of the school inspection regime has featured in some of the publications in this area. In general there seems to be more emphasis on self-evaluation, as opposed to inspection, as a way forward for school improvement in the future, though frequently the point is made that there is a need for some critical or external element in the process. The GTC has set up a forum to consider issues such as this and the whole area is likely to be the subject of some debate in the next few years.

The new Ofsted framework, ‘Inspecting Schools: Framework for Inspecting Schools’, which has been in operation since September 2003, incorporates a number of new developments (p.1), including the following:

- promotion of school self-evaluation
- evaluation of leadership and management at all levels in the school
- recognition of the increased diversification of the curriculum
- an increased focus on inclusivity
- greater account of the views of pupils
- recognition of provision beyond the school day (Ofsted, 2003:1).

The first point made here, linking inspection to self-evaluation, is recognition of the growing importance of self-evaluation: ‘Ofsted recognises the importance of school self-evaluation as a continuous process that is complemented from time to time by external inspection’. School managers preparing for inspection under the new framework need to be aware that the inspection process should now take more account of self-evaluation data. To assist with this, school staff are required to complete a brief self-evaluation report (Form S4) which will help to focus the inspection in this respect and will act as a basis for discussion between the lead inspector and the headteacher (p.10). Once inspection reports using this new framework have been completed and school senior managers and governors have to start planning for the future, they should look carefully at Section 2 of the framework: ‘What should the school do to improve?’

The introduction of threshold payments and performance management have assisted in making teachers much more aware of inspection, evaluation processes and the use of performance data. This can be linked in with the increasing importance of the researcher practitioner or 'teacher as evaluator' role mentioned in chapter 10. From an action research perspective this is no bad thing: 'Evaluation constitutes a continuous process of self-reflexive monitoring' (Elliott, 1998:181).

11.3 Summary

Overall, the areas of assessment, evaluation and accountability are some of the most contested in the futures literature. There are a number of different perspectives, for example, on how the current examinations and assessment framework could be taken forward. There are also competing views about the relative merits and roles of self-evaluation and external inspection.

12 LEADERSHIP AND MANAGEMENT

Leadership in schools, in a broad sense, is a theme that has received increasing prominence in the educational literature in recent years. It is also receiving attention from policy makers: ‘Building strong leadership teams’ is one of the four key areas of strategy identified by the Secretary of State in the document: *A New Specialist System: Transforming Secondary Education* (DfES, 2003c:3).

There seems to be a fairly high degree of agreement within the literature that in order to implement future changes in teaching and learning there does have to be a focus on school leadership, though there is less agreement about what constitutes ‘leadership’ and how best to develop school leaders and managers for their future roles. This chapter provides brief details of the coverage of these issues in the futures literature.

12.1 The importance of school leadership

The government’s approach to these issues, at secondary level, is to invest in programmes to strengthen leadership at all levels:

The growing strength of school leadership and the commitment from the Government in partnership with the National College for School Leadership (NCSL) to provide significant and on-going professional development for school leaders at all levels is pivotal to achieving the vision of a transformed education system.

(DfES, 2003c:30)

The NCSL, established in 2000, ‘is set to provide world class leadership’ and is working to be ‘at the cutting edge on thinking about leadership’ (DfES, 2003c:31). In addition, the Leadership Incentive Grant ‘is designed to secure and embed a transformation in the leadership and management of 1400 secondary schools in cities and in challenging circumstances elsewhere’ (p.33). This grant is provided with the aims of supporting schools to stimulate collaboration, strengthening leadership at all levels and raising pupil attainment.

12.2 Future forms of school leadership

The NCSL’s programmes cover ‘leaders at every stage of their careers – aiming to influence the school system simultaneously at many different points’ (DfES, 2003c:32). The NCSL’s philosophy of ‘distributed leadership’ is ‘centred around the belief that schools should be supported in developing leaders at all levels’.

Five stages of school leadership training have been identified:

- emergent leadership
- established leadership
- entry to headship
- advanced leadership
- consultant leadership.

An example of the training provided for school leaders by the NCSL is the 'Developing the Capacity for School Improvement' programme (<http://www.ncsl.org.uk/index.cfm?pageid=ldev-cross-capacity>). Much stress is placed on the capacity for longer-term school improvement, as opposed to 'quick fixes'. The NCSL is also offering a 'New Visions' programme for new headteachers:

The role of headteachers has changed dramatically in recent years and headteachers coming into post today have a greater need for development and support than ever before. NCSL's New Visions Programme for Early Headship is an innovative, year-long programme for new headteachers built on the most powerful learning models in the world.

(NCSL website: <http://www.ncsl.org.uk>)

If partnerships and networks of schools (or learning centres) develop further, as many suggest, then there are obviously important implications for the management and governance of schools. It may be, for example, that traditional school governing bodies will be replaced with community level partnerships, 'with representation from all the services located on each community learning centre site' (LGA, 2000:5).

12.3 Summary

In general there is much discussion about what the future role of school leaders should be and what skills these leaders will need. There does seem to be a degree of agreement, however, that 'leadership' will become more widely distributed within schools and that the headteacher's role will become more community-orientated.

13 PARTNERSHIPS AND THE COMMUNITY

This chapter takes stock of the literature relating to some broader educational contexts and their potential impacts upon teaching and learning processes: these are, firstly, the policy context (in particular the recent emphases on collaboration, networking and school partnerships) and, secondly, the community context (local, national and local) of schooling.

13.1 Partnerships, teaching and learning

Partnership is developing as a strong theme in education and in the UK this is being driven by national policies that encourage collaboration and the sharing of good practice by schools. There are some important questions to be asked about how good practice can be shared and how collaborative working impacts (and will impact) upon individual teachers and learners.

The relevant national initiatives at the time of writing included the following:

- Excellence in Cities
- Networked Learning Communities
- Beacon Schools and the Leading Edge Partnerships Programme
- Specialist Schools
- Education Action Zones
- Federations
- Diversity Pathfinders
- the Leadership Incentive Grant
- Early Years partnerships
- 14–19 Learning Partnerships.

There are others and there are also local groupings or networks of schools, including ‘clusters’, ‘families’ and ‘pyramid’ groups. Although there are numerous evaluations of these initiatives, it is probably fair to say that the question of just how these partnerships and networks will impact upon teaching and learning processes is an under-researched one.

Some work is underway on models for sharing good practice, though this appears to be rather limited. One ongoing project, for example, is the DfES-funded study, ‘Factors Influencing the Transfer of Good Practice’, directed by Fielding, Reader in Education at the University of Sussex.

In the NFER's evaluation of the Beacon Schools initiative, a number of conceptual models were developed based upon the ways in which practitioners were sharing good practice (Rudd *et al.*, 2002:18–19). These were:

- Model A: Dissemination – a solution looking for a problem
- Model B: Consultancy – a customised approach to an identified problem
- Model C: Improving together – creating networks of mutual support for excellence
- Model D: Brokerage – utilising LEA and school networks.

It was found that schools sometimes started off with a simple dissemination approach, i.e. product-orientated, with an emphasis on written or electronic materials for distribution to a large number of schools, but then moved towards consultancy, networking or brokerage approaches, involving more in-depth, reciprocal partnerships. It seems that these may be the prominent forms of future partnership working. If this is the case, then teachers will need to be good communicators and facilitators outside, as well as inside the classroom.

The LGA discussion paper on *Education in 2020* (LGA, 2000:5) also expresses the view that community learning areas, zones or networks will become increasingly important. The development of learning partnerships and networks is anticipated in much of the literature – and this clearly has important implications for teaching and learning. Johnson and Hallgarten (2002), in accord with the LGA's view that there should be some decentralisation, visualise 'a new direction for schools... With brave government, a large measure of accountability could be transferred to the local community served by the school' (p.2).

David Hargreaves (2003), writing for DEMOS, has written an interesting pamphlet, *Education Epidemic*, which looks at the potential transformation of secondary schools through innovation networks. He argues that new strategies for educational transformation:

... will demand a different kind of leadership from the centre; new, disciplined responsibilities from school leaders and new roles and organisation from the 'middle tier', currently occupied by the Local Education Authorities (LEAs) and Local Learning and Skills Councils (LLSCs). We must all acknowledge the limits of central interventions and capitalise rather on the power and commitment of the professionals and others with local knowledge to work the magic that makes a sustained and disciplined transformation.

(Hargreaves, D., 2003:19)

As they take on and develop the new innovating dimension of their role, teachers and school managers will have to exercise a high degree of self-discipline. Hargreaves calls this disciplining innovation:

The essential first step for an innovative school is to avoid innovation overload and excessive diversity by choosing and agreeing upon a limited focus or content for the main innovative activity that can be well managed... It is important that teachers launch a new era of innovation, but it is absolutely essential that the knowledge creation be undertaken in a highly disciplined way.

(Hargreaves, D., 2003:37)

13.2 Developing the community dimension

An almost universally expressed view is that, although schools and classrooms will still exist as local entities in the future, they will also need to embrace the outside world more. This may include the local community, the national community and even the international community – the ‘global’ school. There does seem to be some evidence that both teachers and learners are becoming more outward looking and also are more willing than in the past to welcome ‘outsiders’ into their places of learning.

The idea that schools will serve groups beyond pre-identified age cohorts is also common in the literature. An LGA discussion paper mentioned above expresses the view, shared by many others, that by 2020, schools will have been transformed into ‘community learning centres... a community resource for local people of all ages’ (LGA, 2000:4). Bentley (1998:6) uses a similar phrase, ‘neighbourhood learning centres’, to describe sites that combine formal and informal learning for a range of different age groups and bring education and community much closer together.

13.3 Summary

There is a strong view that the community dimension of teaching and learning will continue to become more important. Working with the community and networking with others, beyond the confines of the school boundaries, are areas that are likely to attract further research and policy interest in the short to medium-term future. There also seems to be agreement that the sharing of good practice is becoming increasingly important, but this is perhaps, to date, an under-researched aspect of schooling that would certainly benefit from more attention.

14 CONCLUSION

14.1 Key themes, commonalities and differences

In some respects, the authors of this report were surprised by the number of commonalities that became evident from this mapping of the literature on the future of teaching and learning. There seemed to be a reasonable degree of consensus, for example, in relation to the following areas and viewpoints:

- the developing role of the teacher as enabler, facilitator or learning manager
- the emphasis on learner-centred education, including ‘individualised’ or ‘personalised’ learning
- the view that the new technologies will continue to provide useful, flexible tools for teachers and learners
- the continuing importance of CPD, including the further development of the researcher-practitioner role
- the importance of leadership at a variety of levels of the school
- the increasing importance and the expansion of the community dimension of schooling.

Having said this, within these broad areas there were bound to be some important differences. Some of the main differences or areas of controversy identified were as follows:

- the preferred means of maintaining and improving teacher recruitment and retention
- the nature of the key drivers (economic, social, technological, environmental/physical?) that will shape the learning environment
- the means by which the new technologies can be used to best effect and the extent to which ICT can contribute to improved attainment
- the desired content and format of the future curriculum
- the relative merits and roles of assessment, self-evaluation and external inspection for schools, pupils and teachers
- the preferred mechanisms and forms of sharing good practice.

14.2 Gaps in the literature

A distinction can be made between methodological gaps or weaknesses and substantive gaps in the futures literature.

With the exception of some of the scenario-building exercises discussed in chapter 3, many of the sources drawn upon for this mapping exercise provided few details about the methodological aspects of their writing about the future. For example, considerations about the type of futurising (e.g. extrapolation, prediction, speculation and prescription) were rarely made explicit. Another difficulty was with the evidence underpinning future scenarios, which was often limited by lack of clarity about drivers of change and infrequent and insufficient use of socio-economic and demographic trend data.

The literature provides coverage of a whole range of issues and debates linked to the future of teaching and learning, but there are always going to be some substantive gaps, especially in relation to areas of controversy (where evidence may be needed to resolve the disagreements) and to new and emerging areas in this field (where there has not yet been an opportunity to collect evidence or set out the debates). Three examples of areas where we think further futures work might be useful, based upon this mapping of the literature, are as follows:

- the issue of workload (reform) and the effect of this on the teacher role
- issues related to the new and changing roles of support staff (and the impact of these upon the profession as a whole and upon learners)
- issues to do with how the needs of specified groups of learners can be better addressed.

14.3 Ways forward

It has been argued that education is a sector in need of more futures-orientated thinking and debate (e.g. NERF, 2001). We would echo this, but also stress that such efforts need to take note of the strengths and weaknesses of the existing educational futures literature. In particular, we feel that the methodology of futurising is an area that deserves greater attention and discussion.

With respect to ways forward, we would suggest that there is a need for:

- more **focused futurising**, which avoids generalisations that are too broad and can be used as a basis for change in practice

- **middle-range futurising** – at present, although educational futures work can cover any timescale from 1 to 100 years, there does seem to be some polarisation of short-term futurising (e.g. the trade unions/professional associations addressing immediate issues) and long-term futurising (e.g. the work of the think tanks)
- deeper consideration about the **opportunities and limitations of different kinds of futurising** (e.g. extrapolation, prediction, speculation and prescription), in order that there might be more futures exercises that find ways of combining these different approaches and ways of thinking
- greater critical attention to **the evidence base** upon which future scenarios are based, particularly in terms of the systematic use of socio-economic and demographic trend data and clarity about what factors are seen as the key ‘drivers of change’
- **collaborative futurising**, involving a range of different kinds of organisations and individuals such as governmental, non-governmental, researcher, practitioner and stakeholder and encouraging an awareness of futures work that has been carried out with respect to other areas of society.

The mapping exercise reported here indicates that this is potentially a very fruitful area of development for educational stakeholders. We hope that these suggestions provide some useful indicators of possible ways forward in this area.

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