Literature Review in Citizenship, Technology and Learning

Neil Selwyn

FUTURELAB SERIES

REPORT 3:

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AIMS

This review is intended to provide:

1 a sound theoretical and empirically informed basis for informing policy on teaching and learning citizenship with ICT
2 a basis for communication between the educational research community and the commercial sector on the subject of teaching and learning citizenship with ICT
3 a sound theoretical and empirically informed basis for prototype development of digital learning resources to support citizenship teaching and learning.

This report has been designed to enable both rapid identification of the key findings and in-depth exploration of the literature.

The key findings and implications of the report are presented within the Executive Summary and Implications Sections. The main body of the review enables readers to explore in more detail the background to these headline issues.

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EXECUTIVE SUMMARY

the National Curriculum gives schools and teachers great flexibility to develop their own innovative approaches

EXECUTIVE SUMMARY

There is little high calibre empirical research focusing on technology and citizenship. There is, however, a sizeable theoretical literature which is beginning to consider general issues of citizenship and technology, complementing the practical work that is currently taking place in schools. Using this knowledge base we can begin to map out the roles that technology can play in teaching and learning within citizenship education.

WHAT IS CITIZENSHIP EDUCATION?

Citizenship is now a statutory element of the UK National Curriculum at secondary school level (Key Stages 3 and 4) and a non-statutory element of teaching and learning in primary education (Key Stages 1 and 2). In broad terms, the National Curriculum defines citizenship education around the three strands of:

- knowledge and understanding about becoming informed citizens
- developing skills of enquiry and communication
- developing skills of participation and responsible action.

Despite the mandatory nature of the subject, the National Curriculum gives schools and teachers great flexibility to develop their own innovative approaches to citizenship and develop their own curriculum content.

It is clear that schools and teachers can use information and communications technology (ICT) to achieve these aims of understanding, enquiry and participation.

Yet it is also clear that ICT can be (and is currently being) used to support only limited forms of citizenship education. From this perspective, the way that ICT is used to facilitate citizenship education is crucial - implying a design responsibility on the part of educational technologists and software developers to allow effective and expansive teaching and learning.

From a theoretical perspective there are different ways of teaching and learning citizenship. Some of the most important distinctions are:

Passive citizenship:
being the product of an education which seeks to develop knowledge, understandings and behaviours of citizenship

Vs.

Active citizenship:
which augments this passive model with an ability to critique, debate and propose alternative models of the structures and processes of democracy.

Education ABOUT citizenship:
providing students with sufficient knowledge and understanding of national history and the structures and processes of government and political life

Vs.

Education THROUGH citizenship:
students learning by doing through active, participative experiences in the school or local community and beyond. This learning reinforces the knowledge component

Vs.

Education FOR citizenship:
encompasses the 'about' and 'through' strands and involves equipping students with a set of tools (knowledge and understanding, skills and aptitudes, values and dispositions) which enable them to participate actively and sensibly in the roles and responsibilities they encounter in their adult lives.

Most commentators see effective citizenship education as where citizenship 'for' and 'through' education are encouraged - involving active participation, learning through doing, the development of values, attitudes and dispositions and using a variety of resources. Although more difficult to provide, it is these elements of the citizenship education curriculum that educationalists and technologists need to focus their future efforts on when developing ICT applications.

DEVELOPING TECHNOLOGY AS A SUBJECT OF CITIZENSHIP EDUCATION

A key technological issue yet to be addressed adequately by the education literature is how ICT should be approached as a **topic** of citizenship education. The National Curriculum highlights the area of new technology and media as a relevant element of citizenship curricula, but leaves considerable flexibility of definition and development of content on the part of schools and teachers. Much thought and effort needs to go into developing innovative yet rational ICT elements in schools' citizenship curricula.

There is no doubt that the networking of ICTs and the globalisation of society is redefining the notion of citizenship. On this basis some technologists and government agencies are currently lobbying for an 'e-citizenship' element to be integrated into citizenship education - with the aim of preparing learners for life in the expected 'online society'.

Yet the present e-citizenship debate has direct precedent in the 'public understanding of science', 'computer literacy' and 'science-technology-society' debates which took place throughout the 1980s and 1990s. These movements have been only partially successful in UK education - and serve to warn us with regard to future activity.

In particular we should be wary of over-emphasising the potential use of technology in society as opposed to its actual use. There is clearly a need for the development of a sensible curriculum which moves beyond a functional model of ICT knowledge and additionally aims to

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EXECUTIVE SUMMARY

from a pedagogic perspective the passive presentation of citizenship information via ICT is not 'best practice'

demystify technology and explore its wider societal consequences. This can be seen as an 'ideological' model of technology and society. The emphasis of an ideological approach is on considering how and why ICT has been constructed and shaped, rather than attempting specific functional definitions of ICT and society. From this perspective we can offer the following areas of citizenship and technology which could be developed in a maximal model of citizenship education:

- awareness of the social implications of ICT for individuals
- awareness of the implications of ICT at a societal level
- awareness of the 'social shaping' of technology by social, cultural, political and economic influences
- addressing questions of equity in access to, and use of, ICT
- awareness of issues of power and control associated with new technologies in society
- awareness of the historical precedents as well as the future potentials of new technologies.

USING ICT TO FACILITATE CITIZENSHIP EDUCATION

In terms of facilitating the teaching and learning of citizenship there are four different applications of technology as a tool which can be identified:

| USING ICT AS A SOURCE OF CITIZENSHIP INFORMATION

The provision of information via the world wide web and CD-Rom databases is the most popular citizenship application of ICT in current practice and fits in readily with the National Curriculum strand 'knowledge and understanding about becoming informed citizens'. This is a good example of ICT being used to promote education about citizenship. In theory this use of ICT allows learners access to a wide range of information, opinions and perspectives from around the world that would otherwise be inaccessible. Despite being a growing area of activity there is little or no research examining the effectiveness of ICT in delivering citizenship learning in this way, with the scant educational literature that is available consisting only of reflexive reports of the development of online citizenship resources.

Although research focusing on what and how students learn from such resources is scarce, parallels can be drawn with the established body of research focusing on young people's use of news media and their subsequent levels of political participation and knowledge. Although some early psychological research concluded that higher levels of news media use were correlated positively with levels of political participation, the general academic consensus now questions the lasting effects of exposure to news media. This lack of direct evidence could suggest that increased access to citizenship information and resources via media should not be seen as necessarily leading to increased levels of citizenship. From a pedagogic perspective the passive presentation of citizenship information via

ICT is not best practice - and should not be seen as an area of cutting edge development over the next decade.

II USING ICT AS A MEANS OF ENGENDERING CITIZENSHIP DISCUSSION

The role of ICT in encouraging discussion of citizenship matters should be seen as a more appropriate area of development - fitting with the National Curriculum strand: 'developing skills of enquiry and communication'. There has been some development of ICT-based simulations of social situations with the aim of stimulating discussion amongst learners but, again, little specific research has been carried out into the effectiveness of such software. There are suggestions from one study that software designed explicitly to involve group discussion and decision-making when coupled with non-ICT based lessons in communication skills can be effective. However, research into the use of general simulation environments in education is more ambivalent - reporting that learners sometimes have difficulty in setting their own goals and framing their learning activities in a relatively unstructured environment. We can conclude, therefore, that any citizenship simulations should be structured and closely aligned with the offline citizenship curricula of the classroom, and the necessary role of the teacher should be recognised.

Online and networked communication packages form another source of ICT-based citizenship learning to promote discussion. Yet the little empirical work carried out on educational discussion groups - alongside earlier work on non-educational groups - has reached mixed conclusions as to the social and educational benefits of such interactions. Online discussion groups can therefore be seen as offering complementary arenas to real-life communities and networking amongst learners.

III USING ICT TO HELP LEARNERS PRODUCE CITIZENSHIP MATERIALS

A third area highlighted in the education literature - but with little direct empirical background - is the area of using ICT to enable students to be producers of citizenship cultural products. This area is potentially the most exciting and fruitful area of ICT development for citizenship education - fitting closely with the National Curriculum strand: 'developing skills of enquiry and communication'. Production of cultural products such as websites, videos and animations focusing on citizenship issues is sometimes time-consuming and technically demanding, but the processes of active design and production could be seen as offering a more valuable citizenship learning experience than the passive consumption of ready-made products. This should be seen as a key area for ICT development over the next 5 years.

IV USING ICT FOR WHOLE SCHOOL CITIZENSHIP ACTIVITIES AND PRACTICES

The final, and perhaps most innovative, application of technology to citizenship education takes the form of ICT-based whole school citizenship activities and practices - fitting with the National

citizenship simulations should be structured and closely aligned with the offline citizenship curricula of the classroom

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Curriculum strand: 'developing skills of participation and responsible action'. This is based on the widely held belief that the school and classroom are key sites of learning about power, authority, control and notions of fairness and justice. There are a range of formal 'student voice' structures and policies that can be adopted at a whole school level. Schools can be encouraged to use the informal school curriculum as a vehicle to promote citizenship through the use of school councils and other class decision-making activities. There are obvious ICT applications to this element of citizenship education (ie inter-school virtual communities and e-democracy) but very little research and software development to support its use.

FUTURE DIRECTIONS FOR EDUCATIONAL RESEARCH AND PRACTICE

Whilst there is much theoretical writing there has been little, if any, high calibre research carried out in the area of citizenship and technology. The research studies that do exist are, on the whole, small scale, often in case study form, providing exploratory and reflexive accounts. Whilst providing a useful background to the issues raised, issues of sampling, measurement of outcomes and weak generalisability hamper the existing small body of literature to the extent that broad empirically informed conclusions can not (and should not) be drawn. There is evidently a pressing need for well-thought out and rigorous research to be carried out - addressing a range of questions:

- how can ICT best be used to facilitate active rather than passive citizenship learning?
- which types of online/networked interactions facilitate the most effective discussions between communities of citizenship learners?
- how can ICT-based democracy best be applied in classroom and whole school settings?
- do ICT-based democracy and 'student voice' applications lead to implicit and/or explicit citizenship learning?
- in what ways does students' production of digital citizenship resources engender citizenship learning?

It must be recognised that some questions that educationalists and policymakers would like to ask about citizenship and technology cannot be rigorously researched and satisfactorily answered. For example, it is difficult to try to measure many of the outcomes of citizenship education and, it follows, the effectiveness of ICT in creating informed citizens. The dearth of robust research in the area of citizenship education is partly a result of the difficulty of adequately measuring progress in an area with broadly defined outcomes. The key and cutting edge questions surrounding citizenship and new technologies are more likely to be theoretical and exploratory rather than empirical and definitive.

Whilst this review has been able to identify areas of future activity for educators and technologists (see Summary of Implications) there is a definite need for careful practice in this area. It should be concluded that the area of citizenship education is one which is best approached with caution by educational technologists

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INTRODUCTION TO REVIEW

wishing to make a lasting, valuable impact on educational practice. Citizenship education is an area of the curriculum which is ripe for the misapplication of ICT - as a quick fix to a new and ill-defined area of education which some teachers and schools are ambivalent or hostile towards. Commercially there are already suggestions of companies merely repackaging existing software with a 'new' citizenship tag. Although the existing software and resource base is useful it concentrates too much on passive citizenship education. This review of literature highlights some of the areas and approaches which will be more fruitful - in promoting active, participative, learning through and for citizenship.

1 INTRODUCTION TO REVIEW

The teaching and learning of citizenship is an area of current educational interest with most developed countries around the world introducing mandatory citizenship elements to school curricula over the past decade (eg Government of Australia 1994, Center for Civic Education 1994). In UK schools citizenship has now been introduced as a statutory element of the National Curriculum at secondary level (Key Stages 3 and 4) and as a non-statutory element of teaching and learning in primary education (Key Stages 1 and 2). This recent compulsion to deliver citizenship education has led inevitably to renewed attention being focused on this area of education which has been traditionally marginalised in terms of policy, practice and research. As Kerr (2000, p16) observes:

"One of the key points to emerge from the literature in the area is that we have only a limited knowledge and understanding of what actually happens in citizenship education in schools, classrooms and elsewhere. Little systematic research has been conducted since the 1970s".

Building on Kerr's general observation, the overriding conclusion of the present review is that there is little, or no, high calibre empirical research focusing on technology and citizenship in either education or associated social science fields. There is, however, a burgeoning theoretical literature which is beginning to debate general issues of citizenship and technology, alongside current practical activity. Set against the paucity of empirical evidence the present paper offers a comprehensive review of the academic literature in the field of citizenship - concentrating specifically on the place of technology as a topic of citizenship education and the roles that technology can play in teaching and learning within citizenship education.

2 CITIZENSHIP, TECHNOLOGY AND LEARNING - DEFINITIONS AND DEBATES

In spite (or because of) the large amount of discussion in the area, citizenship remains an "essentially contested concept" in education (Beck 1996). Over the last 30 years there has been considerable debate as to the role that formal education should have in engendering citizenship. McLaughlin (1992) makes the distinction between 'thick' citizenship education (where citizenship is a public concern which should be promoted formally in schools' formal curriculum) and 'thin'

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CITIZENSHIP, TECHNOLOGY AND LEARNING - DEFINITIONS AND DEBATES

citizenship has long been an informal part of teaching and learning in schools

citizenship education (where citizenship is a largely private concern which should only be promoted informally in schools' through the hidden curriculum).

At a general level, most authors would concur with TH Marshall's (1950) identification of citizenship as encompassing a civil sense of basic rights and protections, political rights (voting and public assembly) and right to social citizenship (employment, housing, healthcare and other social-welfare benefits). In these broad terms citizenship has long been an informal part of teaching and learning in schools - either implicitly in subjects such as English, history and geography or under a number of subject titles from civics, life skills, moral education, personal and social education and world studies. The differences between these subject titles are more than semantic, they highlight important differences in the way that citizenship can be taught and learnt. 'Civics' and 'civic education' are more often associated with education which stresses knowledge about civic elements of society, whilst 'citizenship' denotes a more participative and active learning process (Morris & Cogan 2001). In this way, citizenship education can be seen as running on a passive/active continuum - passive citizenship being the product of an education which seeks to develop knowledge, understandings and behaviours of citizenship, and active citizenship which augments this passive model with an ability to critique, debate and propose alternative models of the structures and processes of democracy (Arthur and Davidson 2000).

From this theoretical basis it is worthwhile distinguishing the different forms and interpretations of citizenship education that exist before going onto examine the role(s) that ICT can play in the facilitation of citizenship education. For example, many authors describe a 'maximal/ minimal' continuum (eg Kerr 1999, Morris and Cogan 2001):

Minimal

- 'thin'
- exclusive
- passive
- civics education
- formal
- content-led
- knowledge-based
- didactic transmission
- easier to achieve and measure in practice
- textbook reliant

Maximal

- 'thick'
- inclusive
- active
- citizenship education
- participative
- process-led
- values-based
- interactive interpretation
- more difficult to achieve and measure in practice
- uses a variety of resources

A complementary classification (Blyth 1984) comes in the form of:

- **education about citizenship:** providing students with sufficient knowledge and understanding of national history and the structures and processes of government and political life;
- **education through citizenship:** students learning by doing through active,

participative experiences in the school or local community and beyond. this learning reinforces the knowledge component;

- **education for citizenship:** encompasses the other two strands and involves equipping students with a set of tools (knowledge and understanding, skills and aptitudes, values and dispositions) which enable them to participate actively and sensibly in the roles and responsibilities they encounter in their adult lives.

These different forms of citizenship education are crucial to developing an understanding of the role(s) of ICT in the teaching and learning of citizenship. Contemporary educational thinking stresses the need to enable the 'maximal' and 'education for citizenship' approaches, reflecting the multi-faceted nature of the subject and variety of potential methods of delivery:

"[Citizenship education] focuses on citizenship and politics as participative and controversial matters, aiming to discuss and explore the diversity of values and interests that exist in a pluralistic society". (Crick 1999, p340)

"[Citizenship education] is as much about the content as about the process of teaching and learning. It lends itself to a broad mixture of teaching and learning approaches, from the didactic to the interactive, both inside and outside of the classroom". (Morris & Cogan 2001, p120)

Before examining how ICT can be used to achieve these aims we first need to consider the current context in which ICT is being applied in schools in England and Wales - the construction of citizenship in the National Curriculum 2000.

UK CURRICULUM DEFINITIONS AND REQUIREMENTS

Although citizenship has long been part of teaching and learning in UK schools, England and Wales was one of the last European education systems to recognise this area formally as a mandatory element of the curriculum. The recent National Curriculum 2000 guidelines for citizenship have been based on the framing Crick Advisory Group's (1998) report identification of three inter-related components of education for citizenship:

- social and moral responsibility: learning self-confidence and socially and morally responsible behaviour both in and beyond the classroom, towards those in authority and towards each other
- community involvement: learning and becoming helpfully involved in the life and concerns of their neighbourhood and communities, including learning through community involvement and service to the community
- political literacy: learning about institutions, problems and practices of our democracy.

We can see how this ethos encompasses knowledge-based elements of education about citizenship but also stresses maximal qualities of active participation, learning through doing and the development of values, attitudes and dispositions. Crucially, the Crick Report and latterly the DfES have been keen to stress both the flexibility of skills, content

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CITIZENSHIP, TECHNOLOGY AND LEARNING - DEFINITIONS AND DEBATES

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and approaches that this type of citizenship and education may encompass:

"Pupils develop skills of enquiry, communication, participation and responsibility through learning about and becoming informed and interested citizens. This can be achieved through creating links between pupils' learning in the classroom, and activities that take place across the school, in the community and the wider world". (DfES Citizenship Website 2002)

In formal terms within the National Curriculum, citizenship programmes of study are based around the three strands of:

- knowledge and understanding about becoming informed citizens
- developing skills of enquiry and communication
- developing skills of participation and responsible action.

Despite the mandatory nature of the subject, the National Curriculum guidelines place great emphasis on the flexibility of schools and teachers to build upon existing practice and develop their own innovative approaches to citizenship - thus giving individual schools substantial freedom in how to achieve the learning objectives and develop their own curricula in a way which reflects the spirit of the nationally agreed aims (Kerr 1999, Crick 1999). As a result, the way that ICT is used to facilitate citizenship education is crucial - implying a design responsibility on the part of educational technologists and software developers to allow maximal models of teaching and learning.

As a flexible and non-traditional subject area the National Curriculum recognises that citizenship education has obvious ICT applications - although guidance is slight. Specific reference to ICT as a subject of citizenship education is made in the first two strands of 'knowledge and understanding' and 'enquiry and communication', ie:

- pupils should be taught about [...] the media's role in society, including the internet, in providing information and affecting opinion
- pupils should be taught to research a topical political, spiritual, moral, social or cultural issue, problem or event by analysing information from different sources, including ICT-based sources.

Similarly, the use of ICT as a means of delivering and facilitating citizenship education is mentioned briefly. In the spirit of all elements of the curriculum, two 'ICT opportunities' are suggested in the National Curriculum documents, ie:

- pupils could use e-mail to exchange views
- pupils could explore the growing importance of the internet, e-mail and e-commerce.

On the basis of these guidelines the application of technology to citizenship education requires careful thought and a degree of caution.

INFORMATION AND COMMUNICATIONS TECHNOLOGIES AS TOPIC IN THE CITIZENSHIP CURRICULUM

The remainder of this review now goes on to consider technology and citizenship from three main perspectives:

i the implications of technology and technological change for the curriculum content of citizenship education

ii the role of ICT in facilitating the teaching and learning of citizenship in formal classroom settings; and

iii the role of ICT in facilitating citizenship education through the whole school.

Readers most interested in how citizenship education can take account of technology changes in wider society might best be directed to Section 3. Readers most interested in developing educational software and in using ICT as part of citizenship teaching and learning would best be directed to Sections 4 and 5.

3 INFORMATION AND COMMUNICATIONS TECHNOLOGIES AS A TOPIC IN THE CITIZENSHIP CURRICULUM

A key issue in this field is not one of likely ICT application but the issue of how ICT should be approached as a **topic** of citizenship education. Reviewing the present literature it is clear that this will not, however, be an easy task.
It is widely acknowledged, for example, that changes in technology and uses of technology have themselves prompted many of the recent redefinitions of citizenship education. It is argued, for example, that new media technologies have rendered traditional notions of citizenship, social interaction and community life and obligation meaningless (eg Wexler 1990). As the following quotations from educational and cultural studies commentators highlight:

"The pace of technological and social change in the second half of the 20th century has left no section of society unaffected. While technological advances have wrought irrevocable changes to traditional work practices, social relationships also have been inevitably strained and tested... There is the vision of a 21st century citizen living and working in personal isolation, with e-mail, e-economy and internet providing all their information and service needs and the struggle to accommodate this individualistic vision within the concept of an integrated society ...Not surprisingly, therefore, the reconfiguration of citizenship has become an international issue". (Turnbull & Muir 2001, p429-430)

"When new media appear on the horizon - and sometimes when old media have been with us for a long time - crucial issues of citizenship are raised, on a spectrum arching from interpersonal conduct and human capital (the effects of new media on violence and education) to political identification (their effects on sovereign allegiance and heritage appreciation... The decisive post-modern guarantee is access to the technologies of communication as part of cultural citizenship". (Miller 2001, p183)

These commentators effectively argue that new technologies so define society that ICT should be at the heart of the content of all citizenship education.

Whilst this is an extreme reaction, most commentators would concur that notions of citizenship are being reconfigured to an

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INFORMATION AND COMMUNICATIONS TECHNOLOGIES AS TOPIC IN THE CITIZENSHIP CURRICULUM

as contemporary notions of citizenship are seen to be changing so too must contemporary citizenship curricula

extent by a globalisation of production and consumption led by information technology. Indeed, the fact that citizenship has become an educational topic de rigueur has been identified by many commentators as a response to recent global changes. For example, Kerr (1999, p11) lists the following factors which have prompted a widescale educational rethinking of citizenship over the past decade:

- the rapid movement of people within and across national boundaries
- a growing recognition of the rights of indigenous peoples and minorities
- the collapse of political structures and the birth of new ones
- the changing role of women in society
- the impact of the global economy and changing patterns of work
- the effect of a revolution in information and communication technologies
- an increasing global population, and
- the creation of new forms of community.

Thus, as contemporary notions of citizenship are seen to be changing so too must contemporary citizenship curricula. Some educational commentators such as Egglestone (1999), have been keen to broadly acknowledge this, arguing for example that to be 'computer/ communication skilled' is a crucial element of learning to be a citizen. However guidance over the precise form that ICT content of a citizenship curriculum should take is still lacking.

In considering how ICT might be approached as a topic of the citizenship curriculum, it is useful to pay attention to relevant precedents within the long history of curriculum development. This history shows that much of the current e-citizenship debate and notions of a global citizenship are not entirely new. During the 17th and 18th centuries, for example, writers like Bacon, Paine and Goldsmith all invoked notions of world citizenship. More recently, Marshall (1950) acknowledged how the changing technologies of production and employment brought about a crucial transformation of citizenship - although most would now avoid seeing technology and citizenship solely in terms of work and employment (Waks 1996).

The present e-citizenship debates also have direct precedent (and roots) in the 'public understanding of science' and 'science-technology-society' movements in science education (Royal Society 1985, Power 1987). Here, as Jenkins (1999, p703) observes, "the rhetoric is that citizens need to be 'scientifically literate' in order to be able to contribute to decision-making about issues that have a scientific dimension, whether these issues be personal or more broadly political".

Proponents of the public understanding of science have long argued for education which "helps citizens make informed decisions [about science and technology], particularly those which involve social responsibility" (Power 1987, p5) and engenders "citizen thinking- ie everyday thinking" about technological issues (Jenkins 1999, 704). These movements have been, however, only partially successful - and serve to warn us with regard to future activity.

There is, of course, a danger in overstating the case for e-citizenship. As Fullinwider

(1987, p33) argues, the scientific/ technological literacy argument has at times been appropriated by scientists and technologists wishing to raise the profile and funding of their specific subject areas: "I seriously doubt that scientific and technological illiteracy is more damaging to democracy than economic illiteracy or other illiteracies". Yet, whilst being wary of overstating the importance of technological issues, there is a clear need for the development of a sensible citizenship curriculum which aims to demystify technology and "set it in a socio-historical context with economic, political and cultural consequences" (Steele 1987, p739).

At this point it is appropriate to consider the long history surrounding 'computer literacy' (identifying what young people need to 'know about' computers) as an educational aim. With over 30 years of debate behind it, there has been a variety of definitions of computer literacy offered by various authors. It is often defined in functional terms; ie in terms of a "set of abstracted, value-free skills which can be defined, measured and learned, and which are functional to personal and economic development" (Mackay 1992, p125).

Although a functional model of computer literacy is attractive for assessment and delivery purposes, over the last ten years there has been a growing criticism of this approach as being too narrow and one-dimensional. Instead, recent commentators would argue that computer literacy is not a neutral, objective 'skill' but is socially constructed (Mackay 1992). Akin to other notions of literacy, then, merely gaining skills does not make the learner computer literate. Instead computer literacy entails an ability to use the computer independently and creatively but also, crucially, to understand ICT in its social context. Street (1987) refers to this approach as an 'ideological' model of computer literacy. The emphasis of an ideological approach is on considering how and why computer literacy has been constructed and shaped, rather than attempting a specific functional definition of what it is to be computer literate. As Bromley and Shutkin (1999, p1) contend:

"We think it crucial that our students develop the habit of examining what conventionally goes unexamined and unchallenged, so as to foreground and problematize the taken-for-granted workings of power; we wish them to ask what interests shape technology and its use, what meanings are attached to it, who benefits from it, in what ways, and who does not".

It is also clear from research in other fields that e-citizenship should not be taken as something young people naturally develop through interactions with digital technologies. Following on from research into children's use of screen media, we should not assume that children are sophisticated or knowledgeable users and consumers of ICT - despite their high levels of use (eg Buckingham 1997a, Livingstone 1999, Facer et al 2001). We need to pay attention to this, for, as some authors argue, any notion of ICT in the citizenship curriculum should be built around learners' existing technoculture - "effective citizenship education will somehow incorporate or start from that which is already important to the majority of young people" (Supple 1999, p19).

A recent attempt to widen the debate has been the work conducted by the British

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THE ROLE OF ICT IN FACILITATING THE TEACHING AND LEARNING OF CITIZENSHIP EDUCATION

Educational Communications and Technology Agency (Becta). Becta has attempted to map out the area by proposing notions of e-citizenship that should be integrated into the citizenship curriculum. Based around the dual themes of online participation in society and participation in an online society, the emergence of such advice mirrors the wider academic concerns with citizenship rights within a global information economy (eg Mosco 1997). The Becta model of e-citizenship should be seen as helpful but limited to specialised aspects of citizenship, as it is based largely around participation in a range of nascent government e-society initiatives (such as online voting and use of other online government services).

From surveying these perspectives on the changing nature of citizenship and technology, we offer the following areas which could be developed to supplement existing approaches in an attempt to develop a maximal (inclusive, participative, values-led) model of citizenship education:

- awareness of the social implications of ICT for individuals
- awareness of the implications of ICT at a societal level
- awareness of the social shaping of technology by social, cultural, political and economic influences
- awareness of questions of equity in access to, and use of, ICT
- awareness of issues of power and control associated with new technologies in society
- awareness of the historical precedents as well as the future potentials of new technologies.

the online presence of citizenship information is substantial and looks set to form the most prevalent use of ICT for citizenship purposes

4 THE ROLE OF ICT IN FACILITATING THE TEACHING AND LEARNING OF CITIZENSHIP EDUCATION

Aside from the place of technology as a topic in the citizenship curriculum we can now consider the role of technology in supporting and engendering the teaching and learning of citizenship. This discussion can be most usefully divided into two sections:

i the formal/explicit teaching and learning of citizenship (this section) and

ii the informal/implicit engendering of citizenship at the level of the whole school (Section 5).

As was discussed previously, the sources of citizenship education and the methods of delivery suggested in the National Curriculum orders are deliberately wide-ranging and left to the discretion of the individual school and teacher. To date there has been commercial and practitioner activity around three different applications of technology:

i ICT as a source of citizenship information

ii ICT as a means of taking part in citizenship discussion; and

iii ICT as a source of learners producing citizenship materials.

These three approaches are now discussed in more detail alongside the varying degrees of empirical evidence supporting their use.

4.1 ICT AS A SOURCE OF CITIZENSHIP INFORMATION

CD-Rom databases and world wide web resources have been welcomed by educationalists as a ready source of citizenship information for teachers and learners. Indeed, the use of ICT as a source of citizenship information forms the majority of current activity by educators and technology companies and fits in readily with the National Curriculum strand of 'knowledge and understanding about becoming informed citizens'. For example, a wide range of citizenship-relevant websites and online resources have been collated under the auspices of the NGfL Virtual Teacher Centre and DfES Citizenship websites (see Appendix). From government departments and non-government organisations to commercial companies and local pressure groups, the online presence of citizenship information is substantial and looks set to form the most prevalent use of ICT for citizenship purposes in contemporary educational practice.

The advantages of using ICT in this manner are plenty and replicate the established arguments for educational use of the internet; ie allowing learners access to a wide range of information, opinions and perspectives from around the world that would otherwise be inaccessible. This use of technology in engendering a world-wide perspective on civic, political and social areas is especially pertinent to citizenship:

"[Citizenship] curricula focused too heavily on the local or on particular national perspectives would appear to be inappropriate to teaching communicative democracy". (Enslin et al 2001, p129)

Yet despite being a burgeoning area of activity there is little or no research examining the effectiveness of ICT in delivering citizenship learning in this way. The scant educational literature that is available consists only of reflexive reports of the development of online citizenship resources. For example, the ongoing European Union 'Eurokid' project involving the development and implementation of anti-racist and democratic websites in four countries (Sweden, UK, Italy and Spain) has, to date, produced a limited literature. With the evaluation phase of the Eurokid project some way off, the researchers offer, as yet, no evidence of its effectiveness:

"We can neither foresee how popular SWEDKID will be with young people (or their teachers) nor any particular outcomes". (Hällgren & Weiner 2002, p12)

Research focusing on what and how students learn from such resources is scarce. However, parallels can be drawn with the established body of research focusing on young people's use of news media and subsequent levels of political participation and knowledge. There is a range of social psychological research carried out in the 1980s which generally concludes that higher levels of use of news media are correlated positively with political participation (eg Andreyenkov et al 1989, Robinson et al 1989, Chaffee & Yang 1990). Yet, such research can be easily criticised for its poor definition of outcome and pseudo-quantification of concepts such as 'political knowledge'. As will be discussed in Section 5, identifying - let alone measuring - concepts such as political interest and democratic engagement is difficult. At best these research findings should be approached with caution.

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talk is obviously fundamental to citizenship

Indeed, there is a body of other literature which questions the lasting effects of exposure to news media - contending that viewers understand and learn relatively little from what they watch. Gunter (1987), for example, argues that viewers quickly forget most of what they see - often failing to comprehend it in the first place. Similarly Graber (1988) observed that people tend to be 'cognitive misers' - opting for the approach to new information which they believe will involve the least mental effort on their part. These points have been reinforced in some educational research. Selwyn et al's (2000) study of autonomous ICT use in higher education found that, given the choice, undergraduate students opt for the approach to locating and retrieving new information which they believe will involve the least physical and mental effort on their part - often in the form of a conventional book-based library as opposed to the world wide web. Other research has found that children can often develop an over-simplified and trivial understanding of television news content (Cebrain de al Serna 1995) and that school students selectively watch and 'switch off' from news broadcasts that they are exposed to in school settings (Buckingham 1997b). Thus, it has been argued from the passive presentation of citizenship content in television, that:

"The idea that [media] helps us to broaden our horizons, to get to know other realities, and to learn more about the world and its cultures, is totally unfounded". (Selva & Sola 1995, p76)

From this perspective, as Buckingham (1999, p173) reasons, there is a need for practitioners and researchers to avoid seeing increased access to citizenship information and resources via media as somehow leading to increased levels of citizenship:

"Theoretically, [research studies] adopt a notion of political socialisation that is highly functionalist: young people are seen as passive recipients of adults' attempts to mould them into their allotted social roles. The approach here is thus essentially psychologistic. Young people's disaffection from politics, for example, is seen as a kind of psychological dysfunction caused by a lack of information, rather than the shortcomings of the political system itself: all we have to do is provide the information and disaffection will disappear".

Extending these studies to considering the presentation of citizenship information via the world wide web and CD-Roms, it could be concluded that there is a danger that using ICT for the passive presentation of (admittedly increased levels of) citizenship information will be of limited lasting value. There is, as Buckingham (1999, p174) argues, a danger that increased levels of citizenship information will merely "create a kind of illusion of being informed... not a guarantee of active citizenship, but a substitute for it". Indeed, online materials have the potential to be as limited and badly written as textbooks (Lawson 2001), with Morris & Cogan's (2001, p112) research into citizenship education in six countries confirming the reductionist nature of such resource-based teaching:

"Generally, where textbooks were available, their focus was on content and knowledge that stressed education about citizenship. Thus, the goal was to provide pupils with knowledge about national history and the structures and processes of government".

Theoretically (and with tentative empirical support) it can be concluded that the passive presentation of citizenship information via ICT does not comprise everything that citizenship education can and should be about - and should not be seen as an area of cutting edge development over the next decade.

4.2 ICT AS A MEANS OF TAKING PART IN CITIZENSHIP DISCUSSION

As Enslin et al (2001, p116) observe, "talk is obviously fundamental to citizenship" - as is listening and cooperating with others, tolerating other points of view and the ability to construct a reasoned argument. If allowed the time and space to talk in school, students are capable of expressing sophisticated and complex notions of their cultural identities and status as citizens (eg Rassool 1999). From this perspective, the role of ICT in facilitating and engendering discussion of citizenship matters can be identified as a potential area of development - fitting also with the National Curriculum strand: 'developing skills of enquiry and communication'.

Simulations and Discussion

There has been some development of ICT simulations of social situations in citizenship education with the aim of stimulating discussion amongst learners. Typically such software involves the presentation of various scenarios - often in the form of an ongoing narrative - with the learner(s) required to make decisions and judgements at regular intervals which then influence the course of the narrative. This use of ICT to engender empathetic discussion and decision making is now a standard model of current citizenship software design (see Appendix for an indicative range of current titles). Yet, despite its burgeoning use in school, little specific research has been carried out to date into its effectiveness.

Research into the use of general simulation environments in education (usually in the area of science) has been ambivalent - reporting that learners sometimes have difficulty in setting their own goals and framing their learning activities in a relatively unstructured environment. The lack of systematic planning and monitoring has been identified as a specific problem of such software (Lavoie & Good 1988, Simmons & Lunetta 1993, Veenman et al 1997, Schute & Glaser 1990) - with the regular use of framing questions and/or assessments suggested as a design solution (Tabak et al 1996, de Jong et al 1998).

From a citizenship perspective, a study carried out by Wegerif et al (1998) has sought to build upon previous research examining students' talk when using computers in small groups. Whereas much of children's talk when using computers in classrooms together was found to be of limited educational value (Mercer 1994, Wegerif & Scrimshaw 1997), Wegerif et al (1998) show how software can be used to generate meaningful discussion when embedded in a pedagogic context which involves prior coaching in exploratory talk and a software design directly based around the wider citizenship curriculum. From a design perspective, levels of discussion are increased by the use of specifically designed points in the software where discussion and talk is prompted. This study used a citizenship software package presenting a series of problems embedded in a narrative structure and is

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it is perhaps the capacity for on-line contact and dialogue between learners that has provoked the most enthusiasm

perhaps the most relevant study to present software development. Nevertheless, it was small-scale and exploratory in nature - involving only five groups of three children using the software. (See the Futurelab Series review on Thinking Skills for a further discussion of this research).

Networked Discussion and Communities

Aside from stand-alone simulation packages, online and networked communication packages (including e-mail and video-conferencing) form another source of ICT-based citizenship learning to promote discussion. Indeed, of the internet's three main functions of storage, transportation and communication (Jones 1995), it is perhaps the capacity for online contact and dialogue between learners that has provoked the most enthusiasm amongst educationalists. With regards to citizenship, online discussion is an area of current development with a variety of examples of good practice. The British Council, for example, run a 'Windows on the World' project where schools are placed in e-mail contact with one another. The 'i-learn' organisation runs a host of 'learning circles' connecting students across Africa, South and North America, Australia and the Middle East, and facilitating discussion and the exchange of resources relating to the different histories, cultures, governments and geographies of the learners involved.

Theoretically, this approach can be advocated from a variety of perspectives. The enthusiasm surrounding the internet's role as a platform for online educational forums has been fuelled by wider societal excitement surrounding computer mediated communication (CMC) and its potential for altering and creating new forms of social relations. Following this line of thought, many authors have been enticed by the democratic potential of the internet and CMC. In theory, it is argued, the internet allows each user an equal voice, or at least an equal right to speak (Foster 1996). This has also led many to extrapolate the capacity of the new 'cyber-technologies' in leading to new forms of social interaction and relationships:

"Communications networks offer the prospect of greater opportunities for seeking advice, challenging orthodoxy, meeting new minds and constructing one's own sense of self. Entirely new notions of social action, based not upon proximity and shared physical experience but rather on remote networks of common perceptions, may begin to emerge and challenge existing social structures".
(Loader 1998, p10)

In the eyes of many technologists, online communication is a powerful medium for specialist but disparate groups of like-minded individuals to form democratic 'virtual communities', providing mutual support, advice and identity (eg Rheingold 1993, Gates 1995). According to Rheingold, virtual communities can be defined as "the social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace" (Rheingold 1993, p5).

Theoretical advantages aside, the little empirical work carried out on educational discussion groups - alongside earlier work on non-educational internet groups (ie Wellman & Gulia 1999, Smith & Kollock

1999, Roberts et al 1997, Schoch & White 1997, Savicki et al 1996) - has reached mixed conclusions as to the social benefits of such interactions. That said, online forums have certainly proved successful in facilitating the exchange of information. Studies in education have found that individuals are often willing to cooperate with each other and exchange information (eg Riel 1990, Riel & Levin 1990, Selwyn 2000, Selinger 1998). This lends some credence to claims for its capacity for online community building and the aggregation of knowledge in computer-mediated spaces as 'computer-assisted groupmind' or 'online brain trusts' (Rheingold 1993). Early work by Kahle and Eschenauer (1995) describes the formation of networked learning communities of adult learning via e-mail for political and cultural education but with no educational evaluation.

There is also a small body of contemporary research currently being carried out in the use of 'First Class' intranet software in liberal adult education which seeks to explore whether online message posting can be said to foster reasoned dialogue and democratic practice. In some instances no evidence is as yet forthcoming from these research projects (Hamilton et al 2002). Other projects have taken the form of small scale case studies and are of limited generalisability. New and Greene (2001), for example, studied the online postings of two education classes totalling "approximately 45 students". From a conversational analysis of selected posts he concluded that students' interactions did show signs of female participants assuming more dominant positions in the discussions than could be expected in 'real-life' classroom conversations - although students did also conform to and reproduce other limited facets of discussion such as avoiding deep engagement or conflict. Despite concluding that their study offers "strong evidence that students are engaged in a participatory democratic practice" (New and Greene 2001, pg. 216), the study is limited both in its scope and execution.

Research into the use of online discussion aside from citizenship and liberal education is equally as ambivalent. Much of the generated discussion in online discussions forums where the participants are dispersed and/or do not know each other in an 'offline' capacity tends to emanate from a hardcore of participants. As Ogden (1994) points out, the fact that meaningful dialogue only takes place between relatively few members of discussion groups or mailing lists, with the vast majority preferring to 'lurk' or passively participate, means that such social spaces are more accurately 'transcendent' communities. If similar groups are to be developed for citizenship education purposes by teachers, or facilitated by developers, then attention needs to be paid to the need to mediate, manage and facilitate discussion in online environments in order to ensure optimal participation.

Adopting Mackay & Powell's (1998) criteria of mutual support as constituting a sense of community among internet discussion groups, such forums oustide the educational arena would seem to be based around providing such support for their members. This has led some authors to argue that online support can be seen as developing 'critical communities' and 'collaborative cultures'. Indeed, by their very nature online discussion groups are voluntary, spontaneous, development-

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on-line discussion groups can be seen as offering complementary arenas to real-life communities and networking amongst adults and students

orientated and unpredictable – they are generally anything but contrived. However, upon closer inspection any sense of 'community' or 'collaborative culture' was often, at best, transitory. A willingness to extend help outside the carefully negotiated boundaries of online groups is rare with much apparently collaborative discussion really taking place for personal and individual means. At best, therefore, online discussion groups can be seen as offering **complementary** arenas to real-life communities and networking amongst adults and students.

4.3 ICT AS A SOURCE OF LEARNERS PRODUCING CITIZENSHIP ACTIVITIES - FULLY ACTIVE APPLICATIONS OF ICT

A third area highlighted in the education literature - but with little empirical work - is the area of using ICT to enable students to be producers of citizenship-related cultural products. This area is potentially the most exciting and fruitful area of ICT development for citizenship education -

fitting closely with the National Curriculum strand 'developing skills of enquiry and communication'. As Buckingham (1999, p182) persuasively argues:

"If the struggle for citizenship is partly a struggle over the means and substance of cultural expression - and particularly over those which are made available by the electronic media - it is essential that the school curriculum should enable young people to become actively involved in the media culture that surrounds them. From this perspective, media education is not confined to analysing the media - much less to some mechanistic notion of 'critical viewing skills'. On the contrary, it aims to encourage young people's critical participation as cultural producers in their own rights".

Production of cultural products such as websites focusing on citizenship issues is extremely time-consuming and often expensive - but the processes of active design and production could be seen as offering a more valuable learning experience than the passive consumption of the finished article. The 'Future of Learning' group at the MIT Media Laboratory are developing the notion of 'constructionism' as a theory of learning and education, whereby people are seen to learn with particular effectiveness when they are engaged in constructing personally meaningful artefacts. While there are some criticisms of this perspective, the MIT group are testing these ideas through a highly innovative project 'The City That We Want'. In this project Brazilian learners are constructing computer-based simulations of how they would like to improve their communities - with the aim of developing critical understandings of how their cities and communities function and the citizenship issues that impinge on day-to-day living.

From the limited empirical literature in this area a number of factors need to be considered. Although a number of 'content-free' authoring packages are available to enable learners to create their own websites, digital videos, animations etc, students bring a range of ICT skills and abilities with them - highlighting the issue of differentiation of authoring software. As Sefton-Green and Buckingham (1996) found, students are often comfortable with authoring software which incorporates easily usable, pre-prepared aspects - but these are often

of limited educational effectiveness. Terming this 'Lego-creativity' (where students create things from 'factory made' building blocks), such studies highlight the need for some pre-packaged software for younger learners before they are at a stage where they can create their own original content (Burn and Reed 1999, Sefton-Green and Buckingham 1996). In citizenship terms this could suggest, for example, a website authoring package for primary school pupils where citizenship material has already been created and merely requires reassembling, by the learner(s). Younger and more 'digitally literate' learners could then progress onto content-free authoring packages after gaining these earlier experiences.

The recently completed 'VideoCulture' research project also provides an interesting case study of the potential outcomes and limiting factors of using media production with students (see Niesyto & Buckingham 2001). The project took place in Germany, Hungary, the Czech Republic, England and the USA and was based around secondary school students producing and then exchanging video films - with the aim of facilitating intercultural encounters (ie exposing the groups of students to the cultures and aesthetics of their counterparts from different countries). Although the VideoCulture project concentrated more on the processes of production than learning outcomes per se, some pertinent conclusions were drawn with regard to the production of digital resources for citizenship purposes. First was the need for young people to have a defined sense of audience when planning and producing digital media in order for them to 'de-centre' and engage in higher order thinking from their projects (Buckingham & Harvey 2001). Students' awareness that their films were to be viewed by students in other countries was seen by the researchers as an important element of the projects' success. However, although the young people were found to be often highly innovative and successful producers of the videos they were less effective in acting as audiences. The young people proved to be highly critical and often dismissive consumers of each others' work - learning more from the production of their own materials than receiving the work of other students (Niesyto 2001). There is a danger, therefore, that the use of ICT to produce citizenship materials becomes a one-way process, with many students trying to make their voices heard but very few listening in a reciprocal manner. Again there is evidently a role for the teacher in mediating and managing these processes.

Other research on students as digital producers has tended to concentrate on use of multimedia authoring in classroom settings. Although researchers have been keen to claim that allowing students to use such packages increases motivation, creativity and creative thinking, cognitive development and transferable development (eg Dimitriadi 2001, Nicaise and Crane 1999, Atherton 2002), such research findings are of limited robustness. Dimitriadi's (2001) conclusions, for example, are based on a case study of two learners. Conversely, McFarlane's (2000) study of 85 pupils using the HyperStudio package warned that there is still a danger of learners developing little real understanding of citizenship issues when authoring multimedia software - with the researchers observing that pupils were able to repeat stereotyped facts and

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children develop a conceptualisation of 'politics' through their everyday, personal experiences of institutions such as the school and the family/household

viewpoints but displayed little deep understanding of the topics involved. It is clear that better quality research is needed in the area of digital authoring - let alone digital authoring and citizenship.

5 THE ROLE OF ICT IN FACILITATING CITIZENSHIP EDUCATION THROUGH THE WHOLE SCHOOL

The final, and perhaps most innovative, strand to the application of technology to citizenship education takes the form of whole school citizenship activities and practices - fitting with the National Curriculum strand of 'developing skills of participation and responsible action'. This is based on the widely held theoretical notion that the school itself is a key site of learning about citizenship – about power, authority, control and notions of fairness and justice. Kerr's (1999, p20) research, for example, identifies the "general structure and aims of education, including the organisation of schooling" as a main influence on the effectiveness of citizenship education policy and practice. Cullingford (1992) argues that children develop a conceptualisation of 'politics' through their everyday, personal experiences of institutions such as the school and the family/household. The logic of this is straightforward:

"[Inappropriate] too are schools in which authority is hierarchical and authoritarian. While the communicative school may not be required to settle all decisions through deliberation, it would need to pay special attention to articulating reasons carefully and to ensuring that a range of different perspectives are heard and taken into account in making them. The culture of the school would be expected to make space for the expression and serious listening to of difference". (Enslin et al 2001, p129)

"Students who learn about democracy in social studies courses but who fail to see it practised in the classroom or school are given the message that democracy is a lofty ideal, but it is not for the real world. What is needed then is an approach to citizenship education that will not only prepare students for democratic participation but help them to appreciate the value of democratic institutions". (Power 1993, p190)

Educational research since the 1960s has identified the importance of a 'democratic classroom climate' in fostering students' political knowledge and interest (eg Oliver & Shaver 1988, Parker 1996). As Morris and Cogan's six country comparative study of citizenship education concluded:

"From the perspective of pupils, there was often a very clear awareness of the disjuncture between theory school's precepts and its practices. It was the latter that were seen to define the values that the school thought were important... These values were most powerfully manifested not in the formal curriculum but through the organisation of school activities and the various elements that comprise hidden or implicit curriculum". (Morris & Cogan 2001, p119)

There are a range of formal structures and policies that can be adopted at a whole school level. As Morris & Cogan's (2001, p112) research found: "across all societies schools were required or encouraged to use the informal school curriculum (eg the creation of student councils/unions) as a vehicle to promote civic education".

Education in the Netherlands, for example, encourages a 'study house' concept where older students are encouraged to move away from traditional classroom teaching and organise other methods of learning and the use of school councils. In Denmark there is a similar requirement that schools should model democracy through a range of class decision making activities.

There is renewed empirical interest in the UK in the area of 'student voice' in schools, with the ESRC currently funding a research network on consulting pupils under the Teaching and Learning Programme. Research work on this project (and previous research carried out by the same team) shows that student voice mechanisms such as school and classroom councils can be effective only if they are truly democratic, listened to and acted upon by other members of the school (both adults and children) and are not treated in a tokenistic manner (see MacBeath & Mortimore 2001, Ruddock & Flutter 2000). Moreover, this research also reminds us that students are not the same in respect of offering a voice, with some students more willing to participate and speak than others (eg middle class girls who feel more at ease with speaking in a school and teacher context) (Fielding 2002).

There are obvious ICT applications for this student voice element of citizenship education and new technologies could have the potential to overcome some of the caveats mentioned above. The school council model would appear ideally suited to ICT, using e-democracy to help establish and run regular class and form council meetings and the wider school councils and working committees. In terms of arranging elections, wider consultation between representatives and other pupils, as well as inter-council communication and discussion, a range of ICT-based e-democracy applications could be used, such as voting and evaluation tools - overcoming the traditional barriers to such activities such as finding common times to meet and encroaching on traditional curriculum time.

The potential for ICT-based democracy has been well rehearsed in the general sociology and political studies literatures (eg Tsagarousianou et al 1998, Poster 1997) and it has long been speculated that computer-mediated communication will reduce the barriers to communication between people working at different hierarchies within organisations (Sproull & Kiesler 1996) - yet as with the other aspects of citizenship education very little, if any, empirical research has been carried out regarding schools, students and citizenship. The scant writing that does exist is of generally poor quality. Povey (1997) offers a weak argument (based on re-interpretation of findings from earlier research) as to how information technology can be used in mathematics teaching to engender a sense of citizenship through democratising learners' relationships with knowledge. Although the ability of ICT to alter students' relationships with knowledge is well documented, the conclusion of a learner-centred mathematics curriculum "enabl[ing] students to participate in a democracy more effectively" (Povey 1997, p109) is based largely on conjecture and indicative of the weak writing in the area. Thus the area of ICT facilitating citizenship education through the whole school can be offered only at the moment as an area of interest for future activity - with no empirical basis for its effectiveness.

TECHNOLOGY AND CITIZENSHIP EDUCATION: TOWARDS AN AGENDA FOR FUTURE RESEARCH, POLICY AND PRACTICE

6 TECHNOLOGY AND CITIZENSHIP EDUCATION: TOWARDS AN AGENDA FOR FUTURE RESEARCH, POLICY AND PRACTICE

This literature review has been able to develop a theoretically informed basis for the future development of curriculum policy and learning resources to support citizenship teaching and learning. Yet on the whole it has been unable to offer a sound empirically informed basis for future activity. Put simply, whilst there is much rhetoric and theoretical writing there has been little, if any, high calibre and rigorous research carried out in the area of citizenship and technology. The research studies that have been identified throughout this review have, on the whole, been small scale, often in case study form, providing exploratory and/or reflexive accounts. Whilst providing a useful background to the issues raised, concerns over sampling, pseudo-measurement of outcomes and weak generalisability hamper the existing small body of literature to the extent that broad empirically informed conclusions can not (and should not) be drawn. Although general research into ICT, teaching and learning is often said to suffer from a lack of quality and rigour, it appears that research into ICT and citizenship may be a particularly weak subset of the field (although see discussion below).

In the absence of a coherent body of empirical research in the area, this review has attempted to identify a framework of salient issues upon which to direct and base future activity in the area of technology and citizenship education. In looking at the three areas of curriculum, formal teaching and learning, and informal school activities, key questions need to be asked by researchers relating to the developments suggested above, eg:

- how can ICT best be used to facilitate active rather than passive citizenship learning?
- which types of online/networked interactions facilitate the most effective discussions between communities of citizenship learners?
- how can ICT-based democracy best be applied in classroom and whole school settings?
- do ICT-based democracy and 'student voice' applications lead to implicit and/or explicit citizenship learning?
- in what ways does students' production of digital citizenship resources engender citizenship learning ?

There is, without doubt, a pressing need for good research to be carried out in the area. However, this task should be approached with caution by the research community. Important as these questions are it must be recognised that some questions that educationalists and policymakers would like to ask about citizenship and technology cannot be rigorously researched and satisfactorily answered. For example, it is difficult, and some would argue counter-intuitive, to try to measure the outcomes of citizenship education and, it follows, the effectiveness of ICT in creating informed citizens. Indeed, the dearth of rigorous and robust empirical work in the area of citizenship education is partly a result of the difficulty of adequately measuring progress in an area with broadly defined outcomes, "involving the acquisition of knowledge and understanding, and the development of

it is difficult, and some would argue counter-intuitive, to try to measure the outcomes of citizenship education and, it follows, the 'effectiveness' of ICT in creating informed citizens

values and dispositions, and skills and attitudes, it is much more difficult to measure how successfully these outcomes have been achieved" (Morris & Cogan 2001, p120).

For example, researchers have attempted only with limited success in the past to empirically measure outcomes of citizenship education. Some studies have utilised the Classroom Climate Scale (Ehman 1969) which seeks to measure the extent to which citizenship-type thinking and discussion is encouraged in classrooms. Other researchers have attempted to use measures of 'political efficacy', 'political trust' and 'political interest' (Hahn 1999). Researchers have also attempted to develop attitude scales towards citizenship (John & Osborn 1992, Furnham 1985, Shaver et al 1971). Yet as was highlighted with regard to the television 'effects' research discussed in Section 3 of this report, these are often crude measures of complex phenomena and can only be seen to be of limited usefulness. More convincing than methods built around the quasi/false quantification of 'citizenship outcomes' is the approach adopted by Schweinhart and Weikart (1997) in carrying out a 20 year longitudinal study attempting to identify the effect of educational experiences on adults' citizenship behaviour. Yet the size and timing of such an approach render it unhelpful in terms of evaluating ICT interventions.

Thus the key and cutting edge questions surrounding citizenship and new technologies are more likely to be theoretical and exploratory rather than empirical and definitive:

"Rather than attempting to measure the effectiveness of news in communicating political information, we should be asking how it enables viewers to construct and define their relationship with the public sphere". (Buckingham 1999, p175)

Whilst this review has been able to identify areas of future activity for educators and technologists (see summary of implications) there is a definite need for careful practice in this area. It should be concluded that the area of citizenship education is one which is best approached with caution by educational technologists wishing to make a lasting, valuable impact on educational practice. Citizenship education is an area of the curriculum in England and Wales which is ripe for the misapplication of ICT - as a quick fix to a new area of education which some teachers and schools are ambivalent or hostile towards. In countries such as the UK and USA citizenship and civics are subjects which have traditionally had weak boundaries. Even in light of the mandatory nature of citizenship in most countries, the danger remains that citizenship will continue to be a marginalised and peripheral subject - remaining part of the 'phantom curriculum'. As Dixon (2000, p94) argues, the "requirement for schools in Britain to teach citizenship can hardly be said to be response to lively grass roots enthusiasm amongst teachers", with recent studies reporting that a significant proportion of teachers perceive citizenship education as a burden (Supple 1999). Even in education systems where citizenship and civics have long been mandatory a cynicism and marginalisation often prevails in schools (Morris & Cogan 2001). Thus, as Dixon (2000, p96) warns, applying

the key and 'cutting edge' questions surrounding citizenship and new technologies are more likely to be theoretical and exploratory rather than empirical and definitive

SUMMARY OF IMPLICATIONS FOR PRACTICE, CURRICULUM DEVELOPMENT, DESIGN OF LEARNING RESOURCES AND EDUCATIONAL RESEARCH

the area of citizenship education is one which is best approached with caution by educational technologists wishing to make a lasting, valuable impact on educational practice

ICT to citizenship education in schools could easily add to the marginalisation of the subject:

"ICT is already playing its part and offers experiences (for example of international networking between schools and children) which undoubtedly enlarge their horizons but in their glamour it may be overlooked that they rarely engage students in anything more than an exchange of information ... It is likely to end up creating the 'virtual child world citizen' who will then consequently acquire a spurious reality".

Commercially there are already suggestions of companies repackaging existing software with a 'new' citizenship tag. Although the existing software/ resource base is useful it concentrates too much on passive citizenship education. There is a danger that in curriculum terms ICT and citizenship becomes based around "the already hollow slogans coming from government and industry" (Waks 1996, p288) such as 'information society' and 'e-citizenship', with the use of e-mail and the world wide web leading only to minimal, passive citizenship learning experiences and outcomes. That said this review has been able to identify areas where technology can be developed as an enhancement rather than containment of citizenship education - in promoting active, participative learning through and for citizenship. As such there is value in pursuing the development of ICT-based applications along these lines as citizenship continues to develop as a subject in UK education.

7 SUMMARY OF IMPLICATIONS FOR PRACTICE, CURRICULUM DEVELOPMENT, DESIGN OF LEARNING RESOURCES AND EDUCATIONAL RESEARCH

Given the relative paucity of practice, research and software development in the area of citizenship education, there is plenty of scope for future activity regarding the use of ICT. However, it should be restated that any activity needs to be carefully approached. Given its status as a new and ill-defined area of education which some teachers and schools are ambivalent or hostile towards, there is a danger that: (i) some software developers will see citizenship as an area of the curriculum ripe for exploitation; and (ii) that policymakers and educationalists will see ICT as a convenient means of delivering an awkward area of the curriculum. At best ICT can play a supporting rather than central role in citizenship education. That said there is potential for ICT to be used to enhance citizenship education and promote active, participative learning through and for citizenship.

7.1 IMPLICATIONS FOR SCHOOL PRACTICE

At present ICT can be used for a host of activities which lead to active learning for citizenship. Although the use of ICT as a source of citizenship education can be invaluable (eg via websites and CD-Roms), teachers should look to more innovative uses of ICT in their citizenship provision. Using existing software teachers can:

i Use ICT as a means of engendering citizenship discussion

- use online and networked communication packages (such as First Class) to promote citizenship discussion and discussion both within and between schools
- use software which simulates social situations with the aim of engendering discussion amongst learners.

ii Use ICT to help learners produce citizenship materials

- use content-free authoring packages (eg webpage authoring packages, digital video editing packages, desktop publishing) to enable students to be producers of citizenship cultural products. Production of cultural products such as websites, videos and animations focusing on citizenship issues is sometimes time-consuming and technically demanding - but the processes of active design and production often offer a more valuable citizenship learning experience than the passive consumption of ready-made products.

iii Use ICT for whole school citizenship activities and practices

- schools and senior management teams should be encouraged to explore the possibilities of promoting citizenship through the use of ICT-based school councils and other class decision making activities. There are obvious ICT applications to this element of citizenship education (ie inter-school virtual communities, online voting packages).

7.2 IMPLICATIONS FOR CURRICULUM DEVELOPMENT

A key issue yet to be addressed adequately by curriculum developers (at both the national and school levels) is how ICT should be approached as a topic of citizenship education. The National Curriculum highlights the area of new technology and media as a relevant element of citizenship curricula but leaves considerable flexibility of definition and development of content on the part of schools and teachers. Much thought and effort needs to go into developing innovative yet rational ICT elements in schools' citizenship curricula. Whilst schools are in a position to develop this on a case-by-case basis, more guidance from central government agencies would be welcome, building on the advice currently being offered by agencies such as Becta.

In particular curriculum developers should be wary of over-emphasising the potential use of technology in society as opposed to its actual use. There is clearly a need for the development of a sensible curriculum which moves beyond a functional model of ICT knowledge and aims to demystify technology and explore its wider societal consequences. This can be seen as an 'ideological' model of technology and society. The emphasis of an ideological approach is on considering how and why ICT has been constructed and shaped, rather than attempting specific functional definitions of ICT and society. From this perspective we have offered an indicative range of areas of citizenship and technology which could be developed in a maximal model of citizenship education:

SUMMARY OF IMPLICATIONS FOR PRACTICE, CURRICULUM DEVELOPMENT, DESIGN OF LEARNING RESOURCES AND EDUCATIONAL RESEARCH

curriculum developers should be wary of over-emphasising the potential use of technology in society as opposed to its actual use

- awareness of the social implications of ICT for individuals
- awarness of the implications of ICT at a societal level
- awareness of the social shaping of technology by social, cultural, political and economic influences
- addressing questions of equity in access to, and use of, ICT
- awareness of issues of power and control associated with new technologies in society
- awareness of the historical precedents as well as the future potentials of 'new' technologies.

7.3 IMPLICATIONS FOR DESIGN OF LEARNING RESOURCES

There are few specifically designed citizenship software packages. Using the three categories of practice outlined above there are opportunities for software developers to concentrate their activities on the following areas of citizenship education:

i Using ICT as a means of engendering citizenship discussion

- if schools are to use online and networked communication packages to promote citizenship discussion and discussion both within and between schools there is a need to develop some school-specific versions of CMC software such as 'First Class'
- developing more content specific 'social simulations' with the aim of stimulating discussion amongst learners. Many schools use commercial packages such as SimCity and the other Sims range of software. Software which requires learners to discuss social situations and consider a range of decisions looks set to be attractive to citizenship teachers and learners.

ii Using ICT to help learners produce citizenship materials

- there is a need to develop content-specific authoring packages (eg webpage authoring packages, digital video editing packages, desktop publishing) to enable younger students to be producers of citizenship cultural products. This would be authoring software designed for younger children (Key Stages 1 and 2) with a range of pre-packaged citizenship content which could be selected and added by the child - thus creating digital citizenship materials without the need to develop their own content completely from scratch.

iii Using ICT for whole school citizenship activities and practices

- if schools are to promote citizenship through the use of ICT-based 'student voice' activities there is an obvious need for tailor-made packages to facilitate this. Online school council and school election software (designed for school intranets for example) would be two examples. Software allowing schools to create and sustain school 'virtual communities' would also be a pertinent area of development. Although better resourced and staffed schools may be able to develop and adapt their own systems to achieve these aims in-house, many schools will not do so unless ready-made and reliable packages are available.

7.4 IMPLICATIONS FOR EDUCATIONAL RESEARCH

There has been little, if any, high calibre research carried out in the area of citizenship and technology. The research studies that do exist are, on the whole, small scale, often in case study form, providing exploratory and reflexive accounts. Whilst providing a useful background to the issues raised, issues of sampling, measurement of outcomes and weak generalisability hamper the existing small body of literature to the extent that broad empirically informed conclusions can not (and should not) be drawn. Although general research into ICT, teaching and learning often suffers from a lack of quality, it appears that research into ICT and citizenship is a particularly weak subset of the field. There is a pressing need for well-thought out and rigorous research to be carried out - addressing a range of questions:

- how can ICT best be used to facilitate active rather than passive citizenship learning?
- which types of online/networked interactions facilitate the most effective discussions between communities of citizenship learners?
- how can ICT-based democracy best be applied in classroom and whole school settings?
- do ICT-based democracy and 'student voice' applications lead to implicit and/or explicit citizenship learning?
- in what ways does students' production of digital citizenship resources engender citizenship learning?

However, it must be recognised by commissioners and consumers of this research that some questions that educationalists and policymakers would like to ask about citizenship and technology cannot be rigorously researched and satisfactorily answered. For example, it is difficult to try to measure many of the outcomes of citizenship education and, it follows, the effectiveness of ICT in creating informed citizens. The dearth of robust research in the area of citizenship education is partly a result of the difficulty of adequately measuring progress in an area with broadly defined outcomes. The key and cutting edge questions surrounding citizenship and new technologies are more likely to be theoretical and exploratory rather than empirical and definitive.

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APPENDIX

INDICATIVE CITIZENSHIP SOFTWARE AND ONLINE RESOURCES

Best-selling UK Citizenship Software (March-September 2002) Source R-E-M / Educ@Guardian supplement

Title	Publisher	Age
Billy and the Big D-cision	Information Plus	10-14
Billy Breaks the Rules	Information Plus	8-14
Interactive Lets Stop Bullying	Birchfield Interactive	11-16
Senior Interactive Conduct File	JDJA Education	11-13
Lessonbank PSHE 1-6	Belair	7-11
Cyberace	Rural Media Company	11-14
Language in Evidence	Cambridgeshire Software House	8-16
President for a Day	Damaris	15+

USEFUL CITIZENSHIP WEB RESOURCES

Citizenship Foundation	www.citfou.org.uk
Institute for Citizenship	www.citizen.org.uk
Windows on the world	www.wotw.org.uk
CSV Community partners	www.csvcommunitypartners.org.uk
Timeforcitizenship	www.timeforcitizenship.com
Association for Citizenship Teachers	www.teachingcitizenship.org.uk
Schools Council UK	www.schoolscouncil.org
Citizen 21 (Charter 88)	www.citizen21.org.uk
Your Turn	www.yourturn.net
The Fawcett Society	www.equalcitizen.org.uk
ESRC Consulting Pupils About Teaching and Learning Project	www.consultingpupils.co.uk
YouthNet UK	www.thesite.org.uk

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ISBN: 0-9544695-3-4