University of Oxford Department of Education

Research and development to support the next stage of the Harnessing Technology Strategy
The Learner and their Context

Synthesis of overall project findings and recommendations

Chris Davies
University of Oxford

Final Deliverable August 2010

Contact author: Dr Chris Davies, University of Oxford, Department of Education, 15 Norham Gardens, Oxford, OX2 6PY. Tel: 0044 (0)1865 274015. Email chris.davies@education.ox.ac.uk
Note: Due to the government closure of Becta in 2010, the Learner and their Context research team were asked to write a final report that provided a synthesis of overall project findings and recommendations. The remit of the report was as follows, “Provide an initial report analysis full scope of findings from years 1 & 2, synthesising key messages regarding those policy outcomes identified within the HT strategy in order to identify central issues and questions for future research to address; analysis of data from Year 3 research to date, to explicitly address core questions; final stage of research to analyse and synthesise findings from each year in order to address core questions and make recommendations for the delivery and onward development of education policy and practice at a national, regional and local level.”
The Learner and their Context Project: project description

Becta published a call for bids to carry out projects of research and development relating to the Government’s Harnessing Technology Strategy in October 2007,

The purpose of the research is to support the next stage of the Harnessing Technology strategy and its continued refinement. The research will be used by Becta to influence and inform the development and implementation of strategies and policy for the education sector for the period from 2008 through to 2014.

The research will need to include four educational sectors: higher education, further education and skills, schools, and children’s services. The emphasis on higher education should be less than for the other three sectors as research in the HE sector is already well served through the JISC and the Higher Education Academy. Note that FE & Skills includes FE Colleges; offender learning providers; Personal and Community Development learning (PCDL); and work-based learning (WBL) providers.

The call specified the following focus for bids relating to Lot 1: the Learner and their Context:

This lot is concerned with topics such as learners’ experience outside formal education; learner voice; online cultures; developments and trends in learners’ behaviour and experience.

- Obtain regular learner-voice input to understand learners’ needs as they develop and change.
- Maintain an up-to-date view of learners’ experiences of their use of technology within learning and their visions for its future
- Research into the experiences and opportunities for learning that occur in the 85% of their time that learners aren’t in school or college
- Develop the concept of learner entitlement and the aspects of this that are important to learners
- Monitor changes in demographics and relevant behaviour of learners
- Maintain an understanding of what technologies learners have access to – to feed into the inclusion agenda
- Develop an understanding of how learners’ ICT-related proficiencies, skills and experiences are changing
- Research the new or enhanced skills and abilities that learners will need to prosper as learners in a digital world, the extent to which they are developing these, and the method and context in which they do so
- Understand similar issues as described above in relation to parents of learners and to employers

It was made clear in the call that further priorities would be added to those listed above for the second and third years, reducing the focus on the above to some extent.

On this basis, the Oxford University team proposed to carry out a mixture of qualitative enquiry, combining extensive individual interviewers with learners across the age range, and follow-up home visits with a proportion of those, with a nationally representative survey to be carried out by a professional research company. The intention was that, whilst the second year would involve a more varied range of activities, the third year would involve repeated interviews with the original cohort and a repeat of the national survey. Oxford University was awarded the contract in February 2008, beginning the work in April that year.

In the second year the focus was explicitly upon (i) the skills and learning attained through the use of ICT in learners’ own contexts, with a particular focus on learners’ progression into the workplace, and (ii) issues relating to the variable opportunities for using technologies to support learning as experienced by vulnerable and unconnected learners, such as Looked After Children, SEN learners and mainstream learners without regular access to the Internet at home. It was agreed for the third year that we would indeed return to the full cohort studied in year one, whilst maintaining a focus on the second of year two concerns, i.e. with vulnerable and unconnected learners.
Thus the project effectively focused on a very wide range of “learners”, from 8 years old to 19+ (in the first year, there was some emphasis on accessing adult learners engaged in Personal and Community Development learning (PCDL) but this came off the agenda for the subsequent years, as did young offenders, without us undertaking more than preliminary explorations). As it was, we engaged with a remarkably wide learner population which turned out to provide a rich focus for research, in that we were able to explore these young people’s uses of technology in their own contexts, for learning of different kinds, across age and school-related stages, and across a wide range of sub-groups within particular age groups, such as vulnerable and SEN learners (especially through access to learners in receipt of Home Access Programme Target Groups computers).

Such a wide-ranging focus required us to plan research that would enable comparison between learners within and across different age groups, in terms of access to technologies in their own contexts, nature of parental involvement, specific learning difficulties and challenges, issues of Internet safety and safeguarding, and the role of technology in supporting learners’ progression through their educational careers and into the workplace.

The Harnessing Technology Strategy

Given that this research was as part of “a major programme of research and development to support and further develop the next stage of the Harnessing Technology strategy”, the central questions of the research were, effectively:

1. What evidence is there that the goals of the Harnessing Technology strategy, insofar as they relate to learners’ own contexts, are currently being realised?

2. On the basis of this evidence, what further actions can be recommended in order to achieve those goals?

Soon after the research was underway, it was agreed requested by Becta that the research should focus the presentation of findings in relation to the Performance Framework for the Harnessing Technology Strategy (“Harnessing Technology: Next Generation Learning 2008-14”, Becta July 2008, p. 47). This summarised a number of key reference points of particular relevance to the Learner and their Context study, in the form of “System outcomes – impacts of strategy on system”, most specifically under the particular outcome of “Engaged and empowered learners”:

- Learner entitlement is met with all vulnerable groups supported
- Technology adds value to family and informal learning
- Learners use technology confidently and safely to support their learning

The Performance Framework also emphasised the key policy impacts of “Narrowing gaps and supporting the vulnerable” through technology’s capacity to improve “engagement of disadvantaged groups and support vulnerable learners”. These concerns became increasingly central during the second and (curtailed) third years of the project.
**Summary of research activity carried out during years 1 & 2.**

The research focuses and questions outlined in the previous section were operationalised during the course of the project through a range of mixed methods, with respect to a number of different population samples, which will be outlined in the following section.

**Year One**

Phase One: institution-based interviews of 132 young people (aged 8-22, in years 4, 8, 10, FE & HE), discussing with them their experiences with new technologies in and out of school/college/university.

Phase Two: home visits (referred to as case studies) with 35 of the above sample were then conducted using two researchers, one of whom interviewed parents and siblings while the other sat with the young person at their computer while they demonstrated and discussed their most frequent ICT activities.

Phase Three: The final part of our first year involved using insights from our qualitative work to develop a nationally representative questionnaire survey of the same age groups in the qualitative studies.

**Year Two**

A series of in-depth studies of particular groups of young people, including those in families without extensive access to ICTs at home; vulnerable learners including Looked After Children and SEN learners; higher education students on vocational as well as those on non-vocational degrees; recent recruits into the workplace and their employers. In addition, the ongoing experiences of 32 learners from Year One were monitored by interviews and follow-up email contact.

**Year Three**

The design for this involved re-interviewing as many of the Year One cohort as possible, augmenting those numbers where appropriate with other members of the appropriate age groups drawn from local schools. Also further interviews with the Looked After Children and SEN learners interviewed during year one (to monitor progress of using HAP machines), and interviews with an additional cohort from a Special School. Also follow-up home visits with a proportion. Most of this data gathering will be complete before the funding is withdrawn.

It was the intention to repeat the Year One survey, but that will no longer be possible owing to loss of funding.
Findings & Recommendations from Year One

Overview of findings

1. During the first year of our research, we built up a picture of how the majority of young people we have met were using technologies in their lives. Whilst many of these activities are common with much younger children, we observed that the range of technology activities outlined below tended to become established once at secondary school age:

- **social networking & communicating** via SNS; texting; email; phone; MSN etc.
- **leisure activities** games playing online, on games consoles & mobiles; MP3 players; TV on demand, viewing videos online;
- **creative activities** photos and videos; video editing and picture editing; composing stories; games-related creativity;
- **participation** in online groups and communities, for games play, sport, religious affiliation, etc.
- **academic work** primarily using Word, PowerPoint, Excel; researching with Google and Wikipedia.

It was the spread of activities across the population that was most notable – by 2008 it was clearly the case that engaging in this range of activities had become a fairly normal part of teenage culture, although often in quite superficial ways.

At the same time, we also observed a considerable degree of variation within this broad common pattern of technology-enabled activity. Dimensions of variation involved age/phase stages changes, extent of access to technology, sharply differing kinds of self-identification as technology users:

<table>
<thead>
<tr>
<th>KS1-2</th>
<th>KS3</th>
<th>KS4, 16-19, FE, HE</th>
<th>students/workplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>intensive users</td>
<td>intensive &amp; specialist users</td>
<td>intensive &amp; specialist users</td>
<td>intensive &amp; specialist users</td>
</tr>
<tr>
<td>apprenticeship users</td>
<td>teenage mainstream users</td>
<td>student mainstream users</td>
<td>student/employee users</td>
</tr>
<tr>
<td>unconnected &amp; vulnerable learners</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These groupings were seen as fairly fluid, but based on our samples this seems to us to be a helpful way of thinking about variation across the broad population that we are concerned with. In very broad brush terms, this table is intended to outline the following characteristics within the broad population of young people as we observed them during Year One:

- **intensive and specialist** users who tend to fit the digital native stereotype: they present themselves as highly engaged, adaptable and collaborative learners of technological processes and behaviours, they appear interested in technologies for their intrinsic qualities, they do not necessarily engage in the typical teenage range of activities, they often develop trajectories of personal technology interest that have implications for choices about areas of study and possible future employment;
• **mainstream** users: those young people who (primarily through membership of and participation in the wider peer group) come to share and accumulate a range of technology practices as they grow older. They appear to regard technologies as instrumental in improving choice and some freedom of action in achieving personal goals; (as necessary tools rather objects of intense desire or engagement);

• **ambivalent** users appear similar to mainstream users in the range of activities they engage in, but tend to do so in more reserved and resistant ways; this ambivalence is often expressed in terms of self-identity (i.e. not a geek) but may also have been influenced by negative experiences of using technology, lack of confidence or competence in doing so, etc.;

• **disconnected** users: those whose family and/or personal circumstances prevent them from having the kind of ownership of and access to technologies in the home (especially connection to broadband Internet) that the majority of their peers take for granted; this results from lack of money, difficult personal circumstances (e.g. Looked After Children), special educational needs. Even though these circumstances have been addressed by the Home Access Programme in various ways, such learners obviously still exist or have achieved only partial access (such as Looked After Children not being allowed to access the Internet to the same extent that their peers can); our evidence suggests that those without access are vulnerable to a range of problems: lack of opportunity and resources for study at home; lack of access to the school/college networks from home; lack of participation in the shared online worlds of their peers; lack of opportunity to develop informal technology skills and informal learning opportunities.

**Detailed findings from Year One**

The following headline findings draw on all phases of research during year one, i.e. analysis of both qualitative interviews, home visits and survey data.

**General access to and uses of technology in the home**

1. Although there is variation in terms of enthusiasm that learners express about technologies, the great majority of learners interviewed regularly engaged in a wide range of technology-enabled activities for both pleasure and learning. The great majority of learners across the age range, and increasingly as they grow older, regularly used digital technologies in the home for a range of purposes that varied according both to gender and age, with younger people favouring games and creative activities, and older people favouring communication (especially girls) and games-play (especially boys).

2. 82% of learners nationally had access to Internet-connected computers in their homes at the end of 2008.

3. Many families regularly used the computer together for shared activities: looking at photos, watching TV or DVDs, communicating with distant family members and sometimes following up topics of learning. In these cases, a computer placed in a central area of the home appeared to become the nexus for a wide range of family activities and interests.

4. Young people generally rated their technology skills quite highly, with variation occurring relating to age, gender and the ability to manage specific activities. Boys and older users were the most confident in their technology skills. Boys and older users are
the most confident when it comes to taking a problem-solving approach to using the computer, and correspondingly to using the Internet effectively.

Safety issues and dealing with risk

5. Parental engagement in children’s uses of technology for learning varied considerably, with some working at the computer with children, others maintaining a constant close attention to what goes on, and others setting rules or agreeing behaviours with their children which are maintained primarily through trust.

6. Young people and their parents appeared to be increasingly conscious of a range of possible risks associated with using the Internet, and to some extent were aware of the need to act carefully. Younger learners were of very unclear about the nature of dangers online, confusing warnings about threats to computers (i.e. viruses) with threats to themselves. Some older learners were over-confident about their levels of security when placing personal information online, in social networking sites of various kinds.

Parents’ views on technology for learning

7. Parents tended to be anxious that their children are distracted from important studies by what they see as trivial or time-wasting online activities.

8. Parents tended to hold conflicting views about the educational values of technology, perceiving it as both an essential part of their child’s learning experience, and potentially a valuable tool, but also perceiving it as a threat to and distraction from traditional kinds of learning, and from activities traditionally associated with childhood.

Young people’s uses of technology for learning

9. For a majority of learners that we spoke with, technologies were used for homework (a) to research information using Google & Wikipedia mainly (in the awareness that this was not always approved of by teachers and parents), and (b) in order to improve the appearance and content of their work.

10. A substantial proportion of learners multitasked whilst engaged in homework activities in ways that were potentially distracting for some, and constructive for others.

11. A minority of students had developed self-directed approaches to their formal learning. These can broadly be divided into: i) those who make original and effective uses of the more ordered and structured aspects of new technologies, and (ii) those who engage in inventive and multitasking approaches when learning. Such practices embraced formal learning and engagement with personal interests, through quasi-formal or informal learning practices.

12. A substantial number of students engaged in limited kinds of creative activities and informal learning that were enabled by access to the Internet and different kinds of technology, such as photo editing, social networking site home page design, animation and participation in games forums.

The overall picture to emerge from the first year of our research was of a remarkable ongoing expansion having taken place during the immediately preceding years in terms of how much technology learners are able to use in their lives away from school and college, and also in terms of how much they are able to do with that. It is clear that the majority of learners do not necessarily use these increasingly high levels of access as effectively as they might when it comes to their learning, but we did come across a large number of interesting
instances in our qualitative data that illustrated how much might be achieved in the right circumstances. It was very clear that not all young people saw themselves as technology enthusiasts, but the combined evidence of our qualitative and quantitative data is that the great majority of young people were in a good position to make increasingly productive uses of technology for learning, and the minority who are already achieving very positive uses provide very interesting evidence of what form these uses might take.

The role of the family appeared often central in enabling and supporting young people’s learning with technologies. Families, whatever level of engagement they currently take in their children’s learning, are generally very concerned to do the right thing for their children, which in relation to technology means (a) making sure that it is available and (b) trying to steer its use towards learning, and to discourage negative and distracting uses. Family help is invaluable, but parents often seemed uncertain about the skills or competence of their children in making good use of technologies, and were wary of encouraging experimentation. Therefore, advice to parents figures strongly in our recommendations from year one findings, which are summarised below. We recognise that it is very difficult to formulate policy with regards to what parents should do, and the emphasis in these recommendations is clearly on ways in which formal education might respond to the insights from our research in Year One.

**Recommendations from Year One**

- Parents need to be supported with advice and practical suggestions designed to help children use technologies in environments that are ergonomically favourable for continued use with keyboards, screens, cables etc.

- Schools should ensure that the benefits and usability of their virtual learning environments are explained and promoted strong both to parents and learners, and that teachers are given sufficient time and support needed to ensure confidence in this crucial means of supporting learners in their own contexts.

- Ways should be explored of informing parents, such as through schools’ virtual learning environments, about the benefits for their children in using technologies for learning in the home, so that they can support and encourage positive behaviours to as great an extent as they try to prevent negative behaviours.

- Thought should be given to providing appropriate software for supporting learners in managing their studies and other related interests in creative and flexible ways. This could involve developments within virtual learning environments, exploration of existing open source applications on the Internet, or purpose-made software.

- Teachers need to be kept up-to-date on the multiple and complex ways in which young learners use technologies in their lives away from school; this would involve communicating information especially about the amount of time spent by many young learners in front of computers, and the range of activities undertaken there; the extent and nature of multitasking during this time, and its potential impact upon homework should also be communicated, both in terms of opportunity and risk.

- Serious consideration should be given to the content and extent of the school ICT curriculum: evidence from interviews suggests that many learners value the information they gained early on in their ICT lessons, and transfer some of the skills learnt there to their uses of technology in the home. But equally, there is little evidence of schools helping learners to engage productively and critically with the rich resources of the Internet, or with the varied opportunities for participation
afforded by Web 2.0 applications, either as part of a broadened ICT curriculum or through other areas of the curriculum, such as English or citizenship lessons.

- FE and HE institutions should explore ways of responding to the increasing technological sophistication of the next generation of students, both in terms of providing sufficient connectivity and support during their studies, and in terms of reviewing the content of courses to ensure that these are developing in response to the needs both of the workplace and the new skills of future learners.
Findings & Recommendations from Year Two

There were two distinct aspects to the work of Year 2, as indicated in the first section above:

i) the development of learners’ skills in using technology for learning, and the ways in which this contributes to their ongoing educational and career trajectories;

ii) the issues faced by learners without sustained access to technologies in their own contexts, and the impact upon such learners of gaining improved access.

Findings relating to the first of these are largely descriptive, whilst those relating to the second – especially with regard to vulnerable learners and those with special needs consist of a number of recommendations. This is because the situation relating to how schools prepare young people for the workplace, and the role of ICT teaching within that, is beyond the scope of this research, although there was considerable relevance in this research in seeing how little connection is being made currently between the skills that young people are developing for themselves in their own contexts, and the skills being expected of them in the workplace, which are still largely conceived of as being developed within the school.

i) Development of learners’ skills.

1. A minority of learners in the 16-23 age group sample – especially students in the vocationally oriented courses and post-1992 universities – were actively constructing their future studies and careers out of self-motivated technology enthusiasms dating back to early teenage years (e.g. through interests in areas such as music technology, photography, blogging and journalism, and computer systems).

2. More typically, choices about GCSE options, A levels, university degree subjects, and future careers, often appeared to disregard personal enthusiasms. The evidence presented suggested that learners were prepared to abandon areas of strong personal interest such as media study, graphics, computing, journalism etc. for what are considered by the adults in their lives especially (both at home or at school) to be more sensible choices. Within this context, it appears that new technologies have yet to gain credibility as a valid focus for future academic and professional success, and there is clearly some degree of ambivalence, as evinced especially by the traditional university students, about the long-term value of a focus on studies that revolve too closely around technologies.

3. New technologies generally appeared to play an integral rather than dominant role in their educational and career trajectories. For the most part, it appeared that these technologies afforded the tools, the social communications, the entertainment and distraction that complemented the more serious directions of their studies.

4. Whilst the students in post-16 education were very often focused on their future vocational directions, it appeared within the sample interviewed for this research at least that there was a general lack of specific understanding about the detail of what that work would involve. Through opportunities such as work placements and internships, students in HE tended to have better understanding of these issues, but were still finding themselves needing to second-guess what future employers would want from them in terms of technology skills especially.

5. Employers take it increasingly for granted that recruits at a certain level of education (especially graduates) come into employment with sufficient capacity to use
technologies, and that they will find it relatively unproblematic to develop any skills that their jobs would require.

6. Employers tended not to check for specific technology skills in their recruits, but rather looked for the capacity to learn and develop as required once in post. It appeared that, whilst they did hold certain stereotyped views of young people as technology users, they had not thought in depth about the issue of technology skills that might be learnt in self-directed ways by future recruits, within their own contexts.

7. Employers tended not to identify and use any informal technology skills brought into businesses by young recruits especially, and the recruits themselves tended to defer to the views of using technologies that they encountered in their jobs, although a minority did attempt to encourage what they perceived as more enlightened approaches.

8. Employers were aware that the Internet and Web 2.0 tools in particular introduced new possibilities for achieving success in their business, by improving internal communications, by connecting more effectively with customers, and by seeking new recruits through the medium of Web 2.0.

\textbf{ii) Learners without sustained access to technologies}

\textit{Mainstream learners without sustained access to Internet at home}

1. Learners without sustained Internet access at home were obviously at a disadvantage in terms of using school learning platforms, although such progress was made with the Home Access programme will have improved this aspect of digital divide substantially.

2. Unconnected learners were very conscious of being at a disadvantage in having to complete work at school requiring computers or the Internet in more rushed ways than their peers. Not only did they feel that their work had to be hurried, they were conscious of missing out on social activities within school, and also on online social activities from home (including the opportunity to discuss homework online with friends from home).

3. The unconnected learners we spoke with also appeared to be in danger of losing out in terms of experiencing informal learning practices, tending to prioritise formal curriculum learning whenever any access to the internet was available.

\textit{Benefits of technologies to previously unconnected vulnerable learners}

4. The evidence suggests that the provision of technologies in the home (through the Home Access Targeted Groups scheme) had rapidly afforded benefits to vulnerable and SEN learners, both in terms of improved self-motivation and also access to uses of technology to support learning. Every effort should be made to continue to achieve the fullest possible coverage.

5. In terms of learners with specific learning needs, the provision of hardware and software allows for effective personalization of learning for learners with special needs, but provision was patchy in this respect.

\textit{Supporting vulnerable learners}
6. Communication between home and schools is necessary in order to ensure sufficient levels of co-ordination between uses of assistive technologies in the two locations, so that learners have consistent experiences and are able to make the most of the technologies they have at home.

7. There also needs to be strong communication between home and school also to ensure that those with learning difficulties especially, and their carers, are given clear guidance from the school on productive learning activities that they can undertake in the home with their new equipment; it is not sufficient to expect them to discover worthwhile applications of the equipment unaided.

8. Parents and carers of learners with special learning requirements play a crucial role in helping their children to make the most of their new technologies, and limited training can is valued, in order both to ensure that the adults possess both sufficient basic skills and understanding of specific assistive technologies.

Issues of Internet access

9. The decision to restrict access to the Internet for vulnerable learners in receipt of HATG equipment needs to be reviewed carefully. Although such learners are more at risk on line than mainstream peers, they are also disadvantaged if denied the socialising and other benefits of being online at home if over-restricted.

10. Nonetheless, a number of vulnerable learners – i.e. Looked After Children – were positive about having been given machines of their own that were specifically dedicated to learning activities, and engaged with those technologies in predominantly educational ways as a consequence. This can be interpreted both as advantageous in terms of formal education, and restrictive in terms of informal learning.
Findings from Year 3 (to date)

1. Young people’s changing experiences of using technologies in their lives

In terms of young people’s overall experiences of technology in their own contexts, we have been struck in particular by two striking, and somewhat contrasting, observations arising from a large number of our interviews with learners during recent months, especially in the secondary school sample: first and most vividly, that Facebook has very rapidly taken on a central role in the lives of these learners, and for many has become in effect a portal into a wide range of their uses of the Internet; secondly, that as new technologies become more than ever embedded in the lives of young people in their own contexts, they are coming to be viewed increasingly as normal and mundane aspects of their lives by a large proportion of this population. To some extent, this represents some degree of increasing polarisation between young people who are highly enthusiastic about and interested in their uses of technology (such as exploring the full scope of activities and interactions afforded by Facebook), and those for whom digital tools are necessary elements in the infrastructure of their lives without attracting strong personal interest in their design or workings (i.e. reflecting the relationship most adults have with new technologies).

Thus our original division of users into intensive users, mainstreamers who are largely positive or enthusiastic about new technologies, and ambivalent users who use them regularly, but who tend to express a number of reservations about doing so, needs to be revised in 2010 (a process of development and change which shows no sign of slowing down). Two years since our first data gathering, it appears that the majority of young people are both dependent on certain aspects of technologies for the things they need to do, and at the same time ambivalent towards them certain other aspects. For the most part, they do not wish to be identified as technology enthusiasts, and in some cases resist the almost mandatory involvement in Facebook.

Thus, we would revise the picture presented in the section on Year One findings of variation amongst young people as technology users slightly to reflect this gradual shift that we see taking place. Rather than characterising mainstream users ambivalent, though, we would suggest that pragmatic (in the OED sense of “aiming at what is achievable rather than ideal; matter-of-fact, practical, down-to-earth”) is more appropriate:

<table>
<thead>
<tr>
<th>KS1-2</th>
<th>KS3</th>
<th>KS4, 16-19, FE, HE</th>
<th>students/workplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apprenticeship users</td>
<td>Enthusiasts: intensive users</td>
<td>intensive &amp; specialist users/ enthusiasts</td>
<td></td>
</tr>
<tr>
<td>Pragmatists: teenage mainstream users</td>
<td>student mainstream users/pragmatists</td>
<td>student/employee users/pragmatists</td>
<td></td>
</tr>
<tr>
<td>Unconnected &amp; vulnerable learners - outsiders</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For a combination of possible reasons we suspect, such as the passing of time, the dominance of Facebook, an ever-present undercurrent of negativity towards young people’s uses of technology on the part of adults, and of course simply familiarity with what is no longer novel, many of the young people we heard from appeared to be more selective and sceptical about the technologies they use than they were when we first spoke with them. One student (Simon, aged 15) who regularly uses his school learning platform, MySpace and
Facebook at home, nonetheless classified his own uses of technology as “probably lower than middle I’d say … I just don’t get interested in that”.

**Facebook**

Given our claims about the dominance of Facebook currently, it is worth exploring some of the uses and attitudes towards it that we have been told about recently. What is particularly striking is the way it has both wiped Bebo (which two years ago was the social networking site of choice for younger secondary age learners) off the map, and is clearly being used by those younger than 13, its official minimum age at present. It is so central within the broad age group’s activities that these young people cannot easily simply ignore it: they have to join in, or find ways of rationalising their self-exclusion¹. MJ (aged 15) explained, in answer to the question of whether he used Facebook: “I’m just about the only person who doesn’t!” Several others explained that they used it quite selectively:

> just to see any notifications ... just like, people’s birthdays, whether anyone’s sent you any messages regarding school or sports or anything ... or one of my friends would say what was the homework or something and I’d be able to answer that...

On the whole, he had learnt to avoid the instant messaging aspect that others use a great deal:

> I didn’t really like it because kind of - the conversations were a bit the same. It’s not the same as speaking personally ... you don’t kind of – you don’t know how they’re feeling in a way – it’s not really a conversation ... (Simon aged 15)

Many others were of course perfectly happy to join in, and often did so in very satisfactory ways, sometimes involving other family members (several had eased their parents’ concerns about Facebook by accepting to have them join the site). Currently it is clearly the case that Facebook dominates the ways that young people communicate, establish and act out their social identities and lives (both in relation to their school networks and other, non-school networks), seek entertainment, and navigate the Internet. For some, this makes the Internet more accessible and easy to use:

> Facebook you’ve got all kinds of media shared, like photo, video, just text comments, you’ve got a built-in email, which is a private one, and then you’ve also got an instant messenger, chat – Facebook chat – on there as well. So it’s all the elements in one place, which is better, rather than having ... an email, an instant messenger, rather than having a photo bucket, something to share – having YouTube – although they’re all great individually, on Facebook you share photos, you share videos, you can send emails, you can send public messages, and send instant messages .. (Ed aged 17)

Shawna (16), who tends to avoid using the Internet for her academic work, conducts her role as Head Girl as much through Facebook as through the school intranet:

> some people are on Facebook 24/7, you can guarantee you can always find them on so – once you put it through that you know they’re coming or they’re not coming ... much better response through that than through school intranet ... much better ... it’s a little more complicated to get on your school email than on your home email

---

through Facebook – on Facebook you can leave yourself logged in ... on the school system there is a limit to how much in your inbox. (Shawna year 12)

When asked if this indicates that the school should directly engage with students via Facebook, Shawna was clear that this would be unwelcome. But the fact remains that schools need to understand how Facebook currently operates in their students’ lives, if only to comprehend the presence of this parallel universe in which very many learners exist. It is, of course, quite impossible to say at this stage whether Facebook will continue to grow in importance in learners’ lives, or will vanish as fast as Bebo did when something else comes along. Right now, though, it does not look as that is about to happen in the immediate future, and it would be reasonable to suggest that it currently constitutes a key aspect of learners’ own contexts.

Engaged and empowered learners

It was evident from recent interviews that home uses of technology for formal learning are steadily becoming more established and often better managed as a result of the development of effective uses – however patchy still – of school learning platforms. We encountered encouraging evidence of this taking place, such as this comment from a year 10 student who appreciated that his school learning platform enabled him to review his past work as part of the process of completing new tasks:

it’s good that way as well ... because it’s kind of there for you, you see all your grades and all, what you’ve done, and you can go back onto those homeworks quite easily.

Some learners, as they approach A level, had become increasingly cautious about trusting unvalidated sources of knowledge on the Internet when it comes to preparing for public examinations, even if they were generally wide-ranging and capable users. Shawna, who made good use of resources like iTunes U to learn about degree courses (as well as being an intensive Facebook user) preferred to keep the computer at some distance from her formal school work:

I am very easily distracted if I am on a computer. ... So I try to stay away from it with work but obviously if I am doing research and stuff then , yeah. ... [I normally just make] ... notes through the textbook there, and then when I’m making revision notes I go from the revision guide, and then if I’m confused about anything I go back to textbook if I am still confused go back to my teacher. That’s how it works ... and then sometimes if I’m confused at home, when I’m stuck there, I’ll go Google it in - like help! What do I do with this question? so you like go to your room where your laptop is to Google it and then come away from it (Shawna aged 16).

Although Shawna is rather more cautious in this respect than most learners we spoke with, it was normally the case that a large proportion were very conscious of adult reservations about the Internet and tended therefore to act in quite conservative ways. We did not encounter, for instance, any striking evidence of free-ranging exploration or inventiveness in technology uses. Students conforming to the digital native learner stereotype were relatively rare, and tended to be those with a general enthusiasm for technologies (tending, for instance, to be Apple Mac users):

I prefer working on a computer – I think it’s a lot better. It’s a lot more interactive, especially all the new types of media, music, video, and I think that’s the direction really it needs to go, rather than sitting down with a text book, it’s a bit boring (Ed, aged 17).
Above all, we are aware of many young people, especially learners in the upper half of secondary school, who have described a wide number of uses of technology that appear to be appropriate, productive, relevant to their needs, and above all unremarkable. This is to say that we seldom heard about innovative or imaginative practices: many young people were largely working in predictable and unvarying ways that enable them to meet the demands of their teachers, but which did not significantly open up new forms of learning or exploration to them. There was not a great deal of evidence of innovative or original practices, but on the other hand there was considerable evidence of effective and structured uses of technologies such as Facebook and school learning platforms that supported the wide range of young people’s interests and needs very effectively, especially in terms of enhancing the ways in which they communicated within their peer networks, and also with their teachers.

**Learners use technology confidently and safely to support their learning**

The role of parents in helping young people to use technologies for learning, strongly advocated in the Harnessing Technology strategy document\(^2\), is both highly significant with regards to young people’s experience in their own contexts, and often quite problematic.

There are many sources of guidance available to parents about supporting their children’s Internet use, from a range of organisations and sites such as CEOP, ThinkUKnow, SafeKids, Childnet and DirectGov, all primarily offering advice on safe Internet use, and hardly ever (with the honourable exception of Becta’s Next Generation Learning website) on using technologies for learning. The parents we interviewed more often tended to pick up information about these issues from the popular media, from friends, in some cases from parents’ meetings at their children’s school, and from participation in a local Internet safety group for parents. None mentioned any of the above Internet-based organisations, and it seems more likely that information about these issues is distributed on a largely informal basis, with the children themselves also being conduits of information they have been given at school, and seen on TV. The effect of all this appeared to be that children in a wide range of families encountered relatively consistent messages for the most part which, whether delivered in contexts of high or low regulation, amounted to the same basic message from adults to young people about the Internet, and technology in general: these things are a mixed blessing and should be treated with caution and suspicion and, whilst they may be useful and fun, are not reliable or entirely safe.

It is arguable that such caution and suspicions constitute a necessary and helpful corrective to what is often viewed as young people’s innate and uncritical enthusiasm for new technologies. It is equally arguable, though, that parents might seriously be limiting their children’s capacity to develop autonomous learning behaviours, by undermining their confidence in the very tools that those same parents have given them to help them with their learning. We think that it is likely that many young people often avoid developing productive technology practices because of the negative messages they receive.

On the other hand, those young people who are enthusiastic about learning to use technologies effectively and in engaging ways for their studies tend to create elaborate procedures (often involving some degree of deception) for alleviating parental concerns, whilst developing potentially effective means of working that they keep to themselves. Either way, on the evidence of our findings, it does seem that a parental role somewhat confusingly consists of generous provision of technology that is counter-balanced by the

\(^2\) “Parents have a vital role to play in ensuring that technology helps their children to develop and learn at home” [Harnessing Technology: Next Generation Learning 2008-2014. Becta; para 71]
consistent expression of reserved or negative attitudes towards that technology. Scrutiny of the wide range of guidance offered to parents about these issues makes the roots and extent of this problem only too clear: it is full of dire warnings about safety and authenticity issues, and gives no credit whatsoever to young people’s capacity for self-reliance, and their understandings and shared intelligence about how to use technologies effectively for learning.

This does not mean that parents should have no role in the process of helping their children use technologies for learning. Young people’s capacity for self-reliance can lead in undesirable directions at times, and their understandings and shared intelligence tends to be incomplete and not sufficiently critical. But their uses of technology possess real capacity for positive development, and on the evidence of our research it seems that parents and children alike would benefit from guidance that points far more decisively towards the exploration of and trust in these aspects of children’s growing skills than is currently the case. Parents should be encouraged to support their children’s exploration and experimentation with new technologies, and become part of that process, in a way that more often validates those activities than regulates them. Such an approach comes closest, we believe, to being able to achieve the HT outcome of technology adding value to family and informal learning: the evidence of our research since 2008 suggests that it is through parents and carers taking the time to watch and learn their children’s developing technology practices that anxieties are somewhat calmed, and productive learning practices are encouraged. This was vividly illustrated in our Year One data, when the mother of AC described her changing perception of his technology uses:

If we hadn’t had Sibelius I don’t think I would really understand why he want to do something like music technology. Or, I’d think is this just a flash in the pan? But, you know, I’ve seen him...

We would go so far as to say – on the basis of our evidence throughout the course of this research – that anxieties about the distractions of technology, and the dangers of the Internet, risk undermining the very opportunities for developing inventive and informal learning practices which provide the most effective means by which young learners can develop into self-reliant and self-directing learners.

**Learner entitlement is met with all vulnerable groups supported**

Our findings from Year Two indicated that access to digital technologies had very specific value for vulnerable and special educational needs learners. The Home Access Targeted Groups scheme, for instance, clearly had the capacity to make a substantial difference in connecting the experience of such learners in their homes more effectively with their experiences in schools.

Last year we saw good evidence of how the HATG scheme was clearly creating opportunities to involve whole families in supporting learners with special needs within the home, and was encouraging – on the basis of our relatively limited evidence to-date – some degree of dialogue between homes and schools about how technology could be used to support learners with what were highly individual difficulties. It was not necessarily the case that all HATG roll-outs were able to ensure sufficiently high levels of personalisation in the provision of equipment, but it was equally clear that those operating the schemes were exploring all necessary avenues to do.

During this final period of research, we have been particularly fortunate to conduct some research with learners in one outstanding special school, Frank Wise School in Banbury. We
were very strongly struck by the fact that such schools themselves provide a key element of the opportunities for informal and exploratory learning using technology that is normally associated with the home. The school offered a wide variety of learning experiences, from the purely sensory through to making animations, music and presentations in ways that such learners would not previously have been able to do. They were given considerable access to these technologies, were encouraged to explore and experiment, and took every advantage of these opportunities. It was clear that learners with very severe difficulties were benefiting from these opportunities to use technology in school that parents wished could be carried through into the home3.

The importance of this area cannot be over-estimated in our opinion, and we are concerned that progress in this respect might be threatened by current changes in funding. We would strongly urge that every effort is made to continue and expand these opportunities within special needs education, and to ensure equivalent and cohesive opportunities in the home.

**The future**

Despite some evidence of cooled enthusiasm towards technologies, there is also evidence of generally intensifying uses, across the age range. It does appear that the spread of smartphones and mobile Internet access amongst older secondary pupils and students in FE and HE, together with the consolidation of Facebook, represents a steady trend (long predicted, but slow in arriving) towards more ubiquitous online engagement with learning, both through individualised and social contexts.

“...The majority of people my age have got a smart-phone ... and if you’ve got a smart-phone in class, and they explain something, you can always look it up if you don’t quite get it, on your phone there and then” (Ed aged 17)

Despite the evidence of possible over-familiarity with some aspects of technology, we do not see the practices reported to us by our interviewees as fully established or settled. The progress over recent years, in terms of establishing the use of new technologies for learning in the home, has been remarkable but is probably insignificant compared to the kind of change that will occur as young people come to have greater access to the Internet via low cost mobile devices such as smart-phones, net-books, and the new generation of tablets. To some extent, young people’s uses of technology and the Internet continues to be limited by caution born of a legitimate desire to safeguard children. But technology developments will not slow down, and young people need to benefit from these, and from structured support in learning how to use them well.

---

3 We have attached the informal notes made following one of our visits to this school as an Appendix, on the strict understanding that it is a confidential document, given that it names the school and members of staff (although students and parents’ names have been altered).
Recommendations

1. **Disseminate awareness of young people’s out-of-school practices to educators.** The findings of research such as we have conducted need to be disseminated widely to schools and teachers, so that they are well-informed about practices of their students of which they might well be unaware, such as the central role of Facebook in their lives, and the ways in which they are learning to manage their own learning at home through their uses of technology;

2. **Maintain development of school learning platforms.** Whatever name is used for these in the future, their development over recent years represents important progress as a means both for enabling parents to access information about their children’s progress and curriculum, and most importantly as a means of providing well-structured experiences of doing schoolwork in the home, which also has the considerable educational value of allowing learners to keep track of previous work and ongoing progress in their work;

3. **Explore the educational potential of Internet-connected mobile technologies.** It is only with the very recent arrival of smart-phones in the UK, with their easy and rapid access to the Internet, that young people are finally beginning to be able to use the Internet anywhere, any time. This has long been the case in some parts of the world, such as S. Korea and Japan, and represents a crucial opportunity for improving educational experiences in young people’s own contexts. Although this topic has been a focus of research for some time, it is only now that available technologies provide a realistic context for serious research into the educational potential of young people’s developing uses of the Internet via mobile devices.

4. **Completing the process of ensuring the widest possible access to technologies in the home.** Our findings suggest that there is likely to be considerable and lasting benefit from continuing to provide access to computers and the Internet to that relatively small proportion of the school population which remains unconnected at home. The Home Access Programme achieved a great deal in a short period of time, but it is unlikely that the problems it aimed to ameliorate have ceased to exist, or will ever entirely disappear. The digital divide represents a particularly acute form of exclusion from educational and longer-term opportunities, which will be all the more brutal for being restricted to those with least resources.

5. **Access to appropriate technologies in the home for vulnerable and special needs learners.** Home access is necessary for all unconnected learners, but the scope for improving the lives and learning of vulnerable and special educational needs learners in this respect is particularly important. We see the exploration of ways in which learners with special needs can be given opportunities, both in their homes and in their schools, for using technologies which enrich their learning and their lives as being potentially the most fruitful, and is certainly the most urgent, area for subsequent research. It is especially important to develop stronger cohesion than currently occurs between the technology opportunities that such learners experience in the two contexts of their lives, home and school. We shall be exploring opportunities for funding for further research in this respect.

6. **Encouraging innovative technology-supported learning practices.** This is clearly a key area of responsibility for schools. Not all teachers are confident about exploring innovative ways of using technology themselves, but the lack of innovation in young people’s own uses of technology for learning clearly indicates a need to move
beyond current productive but generally conservative practices. Organisations such as Futurelab continue to offer lively stimulus for innovation, and a wide range of independent educators will carry on the processes of trying to transform educational practice that Becta has pushed forward for many years. Government should encourage positive action in this respect, especially through localised innovation within schools, and subsequent dissemination of good practice across the Internet via informal networks, including Facebook. If the notion of Web 2.0 taught us anything, it was that informal networks can achieve substantial change at little cost.

7. **Disseminating awareness of the value of technology in young people’s home learning.** The intensive concentration of public and media attention on the dangers and negative aspects of the Internet in recent years has led to a somewhat one-sided perception of, and attitude towards, the use of technologies for learning in the home. Although there are many parents who do encourage and share positive ways of using technologies with their children, it seems to us that very many young people encounter either an excessive degree of negatively-oriented regulation regarding their technology uses or, equally undesirably, a laissez-faire approach in which they are simply left to their own devices (literally, and metaphorically). Neither of these offer the best means for helping young people to develop the long-term capacities for acting responsibly and collaboratively which access to these technologies can potentially make possible.

Our research has unquestionably shown that learners are substantively benefiting from using computers and the Internet at home for learning, even if there remains considerable scope for doing so in more effective ways. We believe that these benefits are only now beginning to be understood and developed. Every effort must be made, through the dissemination of findings from our research over the coming months, to present and illustrate the positive aspects of these activities as widely as possible in the popular media, and to parents through meetings in schools and via the websites designed to advise parents on ways of guiding their children’s uses of the internet. There is a real need to counteract the increasingly negative attitudes that have been generated in recent years towards young people’s use of technologies in general. We are still in the early stages of assembling and analysing the evidence for this crucial purpose, and certainly have no intention of ending this work here.
APPENDIX: Notes on Visit to Frank Wise School 1 July 2010

General impression

Sean O’Sullivan – discussed the demise of Communications Aids Project (CAP) funding and the implications for the students. The school allocates other funding on a needs basis rather than specifically receiving ICT funding.

The pupils at the school have profound and multiple learning difficulties (PMLD) and severe learning difficulties (SLD)

Generally all the teachers we spoke to seemed to ‘speak with one voice’ in terms of being very clear about the philosophy and approach that the school takes. There was a feeling of buzz and excitement in the school. The children were treated with dignity, as capable individuals. There was a very strong sense of imbuing the children with responsibility and instilling a feeling of prospects and achievement. All the teachers spoke about tailoring their work to the needs of the individual children and finding solutions to every child’s problem on a case-by-case basis. Each classroom we went in to had a range of activities going on – in the case of the Year 7 group these activities were structured around a common project – always working towards goals set individually for each student. In the case of two girls that Jane spoke to in the Year 9 (?) group, the project they were engaged in was driven by the interest of one of the girls in World of Warcraft and dragons. They were making a collage of pictures of dragons and some information about each of them. Presumably the curriculum goals were being worked into this project.

Technology was absolutely everywhere, in various forms and there was no feeling that the technology was precious. An example episode: teacher in YR 9 group encouraged a girl to show me some pictures she had brought in from home on her USB stick saying that she was welcome to use the teacher’s laptop – she would let it be on for her. The teacher was not monitoring the child’s use of the computer – it was done very naturally. The technology integrated into the activities and in most cases felt like an aid rather than an add-on.

Range of technologies used in the classroom

- Large touch screen TVs in every classroom. Used for both demonstration purposes (i.e. “projection”) and for kids’ interaction.

- Switches – different kinds depending on the needs of the child (different shape and sensitivity, tactile switches, head switches), adjustable arms to mount them on.

- Range of devices connectable to switches in the nursery – toys, vibrating cushions (!!), music players (cassette rather than CD because CDs don’t like the stop-and-start action), lights etc.

- Laptops and desktop machines – a range of Apple hardware. Used freely by the kids – the technology doesn’t feel ‘precious’.

- Racing track – used by one boy in YR 7 group – it related to the theme of cars and motion and was used to teach him better control of the joystick (I think) and train his motor function.

- USB microphones (essentially dictaphones) used in YR 7 class to record voice-over for their videos – they didn’t seem to be working very well. It was the first time Matt was using these with the kids. His reaction: “I think next week, if they’re all of poor quality it’s fine, because that means I get to show you guys how to use the onboard microphones”. That seemed to
be a general attitude to technology shown by the teachers – there was no sense of risk aversion, but rather of the exploration of the options.

- Picoprojectors. Used to project from individual computers, for example to shine the image right in front of a child on the table to enable visually impaired children to view the picture.

**Year 7 family Group (see lesson plan and graphic laminate)**

Group of 6 students, 1 teacher and 3 carers. The students were working on a Rocket car project. They had previously made and videoed rocket cars and were now editing the video. This particular lesson was directed at ICT goals that were incorporated into the unit. The learning objectives had been differentiated to meet the needs of each student (see lesson plan).

The kids built ‘rocket cars’ of trays on wheels and a water bottle with a cork, they researched related topics on the internet, took photographs of the process of making the cars (imported into iPhoto), recorded their experimentation with the launching of the cars (kids doing the video themselves) and were now editing their videos and recording voice-overs for the movies. The task was to slow down the speed of the video and to zoom in on the ‘action’ – so quite precise tasks, and quite precise instructions of how to do this in iMovie (the teacher showed me the tutorials he used – printed out). The kids were sitting in pairs each with their own classroom assistant around a screen.

The technology was allowing all the students to access the curriculum.

- One student who lacked fine motor skills was using a joystick.
- One student was using a USB switch interface
- Images had been put onto a large screen that the children could then use a switch/joystick to respond to.

Sometimes students are cognitively able but lack motor skills, technology such as switches or a joystick can help with this. Clive was an example of this, he had benefitted from CAP funding to access further technology in home and school.

Noticed the flexible setup of the classroom – as we were leaving the students had packed away the technology (laptops) and were getting a snack ready. We were offered drinks by the students. The competency with which the students were treated was very prominent. The mobility of the room and use of space had been well thought out.

**Interview with Matt, the class teacher**

There is a range of technology of different ages in the classroom with a range of versions of the software. “For higher attaining children it means then they see the differences between the different types of software. Same software but different versions, which.. reflects really what happens in reality. You know, they have iTunes at home and […] they click on a software update and it all changes.” He saw it in terms of presenting challenges to the kids.

They don’t differentiate between subjects – Matt calls himself a ‘regular teacher’ rather than a science or ICT teacher. He is also doing a language project with the students. It is a slide show on ‘why chocolate is good’ – the slides are directed at ‘instruction language’, ‘persuasion language’ and ‘information giving language’. They’re using ICT to demonstrate this by compiling slides.

The teaching is tremendously differentiated (see lesson plan). Everything in blue is goals for individual students. They also use laminated overviews (got a copy as well) of how the technology fits into the different stages of their rocket car project.

*Int:* So how much of similar stuff are they doing at home is your impression?
Matt: Well (..) They all use computers at home, they all choose to go on the computers at break time.

Int: So you’ve got a separate suite somewhere?

Matt: We do, We’ve got the iWise, but they tend to use these computers for choosing time, for free time if they’re not going outside. Andre loves going on with the headphones listening to music. James loves using the on-board little camera to take pictures of himself and other people. Daniel and Nathan love doing.. games online..(..)

Four of the students have got computers at home. Clive has a laptop which he got through CAP (Becta sponsored access scheme). He uses Clicker5 which is a writing assistance system – he uses a joystick to point at a letter and insert it on the screen. Also uses iPhoto. He is learning to use his joystick in a more complex way with his machine.

The school’s policy on safety: They have WebSense ‘which covers most things’. They have opened access to certain things, which are regularly blocked, however, such as YouTube and games. Some of the older kids do (as far as I understand) go on Facebook. “It’s part of the challenge of working out a way for them to do that safely in school and going to the governors to make sure that they have.. that our policies reflect.. enabling kids to do things that their peers are doing, but also keeping them safe because they are more vulnerable.” There are several people around when the kids go on the computers so they can keep an eye on them.

Nursery

There were three children in the nursery aged 2, 4 & 4. There was one teacher and two carers.

Thomas age 4 is to be assessed for a switch, the school has used their existing switches but with no access. Thomas has varying muscle tone, reflex head movements and gets distracted by tactile switches, all of have which have made it difficult for the school to find the right switch for him. The staff are very much into trial in the use of technology but have for Thomas have now decided to bring in the county SEN/ICT advisory service who will work with the schools ICT speech and language unit to equip him with the right switch for his needs.

- Switches – different kinds depending on the needs of the child (different shape and sensitivity, tactile switches, head switches), adjustable arms to mount them on.

- Range of devices connectable to switches in the nursery – toys, vibrating cushions (!!!), recorded messages, music players (cassette rather than CD because CDs don’t like the stop-and-start action), lights etc. Voice output devices.

- Sensory room – lights, project pictures, colours

The classroom had a large touch screen, which great for children to observe cause effect. The teacher, Yvette talked about the need for technology to be robust.

The school sends home record of achievement DVDs each term – these record activities, achievement and learning. Parents sign consent forms for photo/video etc. On the walls in the classroom were pictures of the children engaged in their achievements, with a short write up. The school use home/school diaries everyday. Most of the children are taken to and from school by taxi so the school does not have every day contact with the parents. Some parents prefer to use e-mail than diaries so the school will use e-mail if needed. They will often talk to parents on the phone but have to balance this with time spent with the children.

Where there is interest from parents and there are sufficient switches, they will be sent home with children in the holidays. The school has to balance this with the needs of the families and the child. Often families are busy just caring for a child with special needs and their siblings let alone activities at home. Oxford Central Resource base can provide access to some technologies.
The teacher balances the amount of technology use for the child dependent on the needs of each child.

The classroom teacher, Yvette, said of technology: “Couldn’t do the job without it”

**Interview with Naomi R**

Naomi is the mother of Clive in year 7 and Tyler in the nursery.

We had been told that the school had accessed CAP funding for Clive to have access to switches and a joystick. Most of Clive’s computer work is done at school. He has been using the Clicker 5 writing assistant system for over year and accesses the internet at school. Clive will come home and tell Naomi what he has been doing in school, but like any child, only to some extent. At home he doesn’t get to use technology very often, sometimes in the summer holidays he has been able to. It is an apple mac, which NR doesn’t have a lot of experience with and Naomi has sat with him to use the computer but tries to leave him to get on with it and develop a level of independence.

Naomi thinks the school are planning more opportunities for Clive to use a computer, to develop writing and literacy skills, using Storybook. Naomi has not noticed Clive display more interest because something is technology related it really depends on the activity. Because of Clive’s wheel chair use he is very limited in what he can do, however when the class worked on the garden he loved that as he could move stuff about for pupils in his wheel chair and felt really involved. If he feels he has achieved something that’s what he enjoys.

Int: Does technology give him a level of independence?

NR: I think it does, because he can then be involved within the classroom although he does things and the end result is different using the computer and the others might be writing stuff down it can still enable him to be part of everything. And also with the way technology is going, realistically he won’t be able to write because of the amount of spasm he’s got but at least if he might be able to record his work in other ways, which was the aim of the computer initially it would build up to that it includes him with the rest of the world. He can be a part of it and hopefully to some degree achieve.

The teacher, Yvette, joined in and said Clive was a very good example of how it starts, Clive started with a joystick. He was four when he first used a switch, and a joystick, different sizes were trialed. Because Clive has had an electric wheelchair from a similar age that is controlled by a joystick, they have both developed together, the wheelchair moves forward, back, left, right it’s all helped. He’s had learnt to operate the wheelchair himself now, with only the occasional mishap.

Int: How well does he talk?

NR: He talks the hind leg of a donkey, he didn’t start talking until he was three, and started off slowly, once he got going there was no stopping him

Int: What about voice recognition software?

NR: I’m not sure you’d have to ask the school about that? I don’t think it would work, he can get quite excitable and quite upset. I’m not sure it would be something that......

Yvette: He has the independence in his motor skills, so he has alternative ways of using the technology, he doesn’t necessarily need voice recognition to achieve high levels of communication

NR: He is limited in his movements but I’d rather give him something slightly more challenging and achievable, for example if voice recognition worked and was easy he sit and talk into and it would be the easy option. He does try hard but if he can get away with out doing anything he will.

Int: Has the technology offered more ways to try and challenge him then?

NR: Yes, something’s he has found hard, some of it, for example he had a huge issue with colours and a little bit an issue with letters, we could see letters going down the same route as colours, but
numbers, it's just popped in from nowhere so obviously although he is a bright kid he does still struggle on certain things. It really is mind boggling as it makes no sense but certain things he does struggle on, over the years he does get there, colours took what four years, three or four years it took, which to me doesn’t make any sense what so ever but we get on and on, and whether it was 3 or 4 colours on a computer, or three or four colours on table it was like pick out the red, pick out what ever, you could do that with the computer side of things and also not only was it working his brain it was working his physical side as well, practice for getting those things for when he needs to go on further. For Clive, not for every child or person, I am quite grateful whether it would be a bit of a waste of time initially, Ok give it a go and I’m glad we did cause it’s now opening more doors for him. Not just for inclusion, but for putting mind to hand to hand development. It’s developing his skills, where if we’d started now there would be an awful lot of catching up to do, he probably wouldn’t have got as far with his school work as he has now, to be honest. You know like sentencing work they are starting to do, Clive can’t write so he can just pick up little cards, so someone has got to physically put them there, Ok I know someone has to physically out stuff on computer but he can have twenty words on that computer screen for access what ever and he can put that in his own order to make sense.

Yvette: And he’s in control

Int: Is he very proud of that when he does something?

NR: oh yes he is, Clive is quite a happy go lucky guy but he’s extremely proud when he achieves,

Yvette: And he lets us all know about it as well, he stops us in the corridor.

Int: It does sound like the technology is giving him a lot of opportunities in different areas

Yvette: I think the colours is a good example because he was struggling with the concept of colour but ICT is another way of teaching in a different way, so it helps with generalizing skills as well, I think with Clive he could very easily have gone into the path if we’d just taught colour in one way he could of picked up or got the wrong message, so instead of actually him picking up the concept of colour just picking up the task we wanted him to do and ICT with him definitely helped, it gives another way of looking at the same issue

NR: Clive does memorize a lot, we use to read stories with him a and he would know the book off by heart, we done that, it takes half a dozen times, his memory is phenomenal , all he would of done is remembered whatever you said and linked it to, I think they actually took a year out of it, when he was five or six, they dropped it for 6 months when it wasn’t gelling.

Int: What about using technology to keep in touch with the school, do use e-mail?

NR: I generally don’t to be honest, I don’t ring up for Clive anymore, he can talk for himself, so I either write a note in the diary or he informs the school, unless something I need to speak to the school about . I do talk on the phone about Tyler, mainly because Tyler is very young and very unsettled, look Yvette he’s really having a bad day or what ever but, I do do e-mail, trouble is it’s like texting, I hate texting I’d much rather speak to somebody, I’m quite old fashioned.

Interview with parent

An issue was brought up by a parent who works in the reception at the school: the use of technology in school is so advanced that she has no means of supporting similar levels of technology use in the home. She was seeking our advice as to how to go about learning about the technology and not least funding it. There was a sense from her that her child was missing out on some opportunities because she was unable to keep up.

Parent: what I’ve said to Sean in the past and at developmental reviews, I don’t know how to access the technology for Dean at home.

Int: How old is Dean?
Parent: He’s in the forth family group and he’s nine. He’s using a touch screen computer, and he’s just started using an uppercase keyboard with clear colour delineated. He’s registered partially sighted so I think they are using a black on yellow keyboard with a member of staff saying let’s type the word cat and him saying c-a-t and her saying right c and him having to isolate it and I just feel at home, where as without other son, he’s kind of badgering us for access to the computer em, Dean doesn’t do that sort of pester power and I just feel like that we are depriving him because he’s obviously ready to access computes but all that touch screen technology we don’t have it. And we wouldn’t know how to go about setting it up really or where to get it or whether we should be doing it or whether it should be a school thing.

Parent: Dean going forward, it’s very difficult to talk about his long term prospects, he is going to need to take advantage of technology, I can’t see him being able to write. They are doing a writing program which is starting on, it’s a frog jump program, concentrating on capital letters because they all either start form the top or the mid point, so there’s a lot less starting points, but I kind of see the future in communicating through the computer, typing, you know I got really excited when you see the ipad an things like that but it’s just how that would then how would go about finding that and giving children that opportunity to carry that kind of technology around with them that would enable them to part take fully.

Int: because you work here you obviously see a lot of what Dean’s doing and the opportunity he is provided and it’s frustrating you because you’re than taking him home and he’s not having access to the same technology.

Parent: and when you look up touch screens and stuff they cost hundreds and hundreds of pounds and then you’ve got to get the seating right and whatever or yeah, which was why I thought the iPad would be em, that kind of touch screen technology might be the way to go.

Int: When Dean’s doing the activities in school is he really enjoying the use of technology

Parent: Yes, and he’ll really, he concentrate a lot more on numeracy activities and things if it’s a kind of animated interactive experience, he’s very easily distracted by flicking paper and things like that and he chooses quite self stimulatory activities and paper is just like a real nightmare to have around so if an activity can be focused on a fixed screen with the illumination that comes with it so it grabs attention yes he’s much, much more focused on activities when doing that.

Int: have they got an iPad here yet?

Parent: No, I’m sure it’s inevitable with Sean, I think what we’d wait for is for them to iron out, be a few versions down the line rather than buying it at this end

Int: Always wait for version 2

Parent: Version 3 I think

Int: What other activities does he do with computers?

Parent: He does a lot of hand eye co-ordination activities, so it’ll be kind of

Int: Has been at a special school since he was little?

Parent: He’s been at a special school since he was little but not this one, we moved from London to try and get him in here. His previous school certainly had access to technology but it wasn’t in the classroom, you had to kind of travel to a suite to do it. Whereas here it’s much more integrated, but yeah he’ll do when the crocodile comes up from the swamp, touch the screen when you see it that sort of thing, getting into ??? and those kind of activities, and those sort of games and then numeracy activities

Int: So did he start with the switch technology that is used as well?
Parent: Yes, I believe he did switch stuff, but then the focus now seems to be the keyboard.

Int: He’s obviously made that progression that he’s ready for that.

Parent: Yes, it’s early days, we’ve just got the keyboards in with the differentiated, the black on yellow,

Int: Are they bigger?

Parent: No, they’re not, we have got sort of curved ones, in the school, but no he doesn’t need those, just attention grabbing.

Discussion took place around access to all resources for children with special needs.

Parent talking about communication books, done with a computer board maker system, which is a pointing book with symbols of everything he might want. Dean has his own communication book so can take it to and from school as his mum made it, some children only have them in school to use.

Parent: People are here doing it one way and at home, back in the confusing environment of a home where it’s not as accessible as school.

Int: What about outside of school, listening to stories or anything like that, would you use an iPod or something like that?

Parent: Yes, he’s got an iPod shuffle, he’s very motivated by guitar led bands.

Int: Does he use his shuffle himself?

Parent: No, he can’t, too small. He’s got a CD player in his room, he loves audio books, and he’ll turn the volume up on those, he likes talk radio, radio 5 live he likes so he can access the volume switch for that, and we’re a little bit hesitant about him doing the switches on the wall, anything that’s directly linked to the plugs cause he’ll fiddle, but we’re kind of going with supervision you can turn that on off. But he’s definitely turn the control on or off, but yes he uses that.

Int: That something he enjoys that he can listen to stories when he wants?

Parent: Really, yes. And he’s also got a lot of kind of bubble tubes and things like that, visual sensory stuff in his room and I was looking into, cause I want to kind of rig that up so that kind of like here if he was in visual sensory room he could switch whatever he wanted on and off at the same time but hey are just so expensive and every switch is like a hundred pounds, then if you want to root lots off one then it’s a serious undertaking just for that.

Int: Do they pick up in school what they do at home? Like the audio stories?

Parent: No, not so much, there is a home school diary that, you know I use it very fully and I’ve asked the teachers who work with him, this is the information I would like, that I can talk to him when he comes home, but as in any school, there are different degrees, you know some parents choose to get involved, some don’t even remember to red it or send it back so they certainly know what Dean chooses to listen to those things but I’m not sure that they, I’m not sure that there has been any technology survey, use of technology outside of school survey gone home, but there is lot of children here who are able to express their wishes and a lot of the children, certainly further up the school who are kind of printing of things and coming in and getting their printing and going back to class and taking that home. A lot of the boys in choosing time will choose to go and print pictures of Ferraris and stuff like that, take it home so those parents must know and I’m sure in a lot of cases they are doing it at home as well and the expectation is that they would be doing that at home, but you also have lot of the younger children coming up who have more a lot more specialist needs and maybe won’t be able, so that will be interesting to see how much they are able to access stuff at home, I think that’s the, if child, is unable to do the …

Int: The needs are so varied here.
Parent: Yes, you have kids who would be able to operate a DS, they’d be able to see, they’d be able to manipulate the buttons, that’s not their learning difficulty, then you’ve got a lot more kids here that can’t do that, they can’t do such fine motor, and that’s when parents get bamboozled cause they think well I can’t go to curries and get it straight away

Int: So much of the technology, the ipods, it is so very small, aren’t they

Parent: Yes, really fiddly

**Interview with staff member, Simon**

The school sets up workshops for the whole family so they can work on projects together like animation, the child with the disability gets to share with siblings all the great things they can do.

The school doesn’t tend to set formal homework tasks as there needs to be a balance between learning and having fun, a lot of the parents find their time so structured by the needs of their children there isn’t time for other things. The school tends to capitalize on holiday time to bring them and share what they are doing in school, but not in terms of “you’re going to do a project and bring it back to school” but how can you make family life more fun and more engaging and celebrate the experiences of all your members, it’s more a social thing than an academic thing.

We saw technology as a tool that could be used to overcome barriers to learning far quicker than mainstream schools saw it, mainstream schools still focus on IT as being a tool for the workplace and to develop the skills they need to get jobs and while they now do focus on creative media skills we’ve been doing this for 15/20 years.

It was a pedagogical decision to go with Macs as the operating systems are so much easier to navigate. Mainstream schools deliver curriculum, we teach. We are free up from the pre-conceptions of pupils achieving certain things by certain points in their academic career which we can actually meet the needs of individual students based on what they need to learn next, it gives us an awful lot more freedom, are accountability structures are focused more at parents, families and children as opposed to mainstream tests, because we don’t do those, our curriculum is structured to meet the needs of learners who need to learn as opposed to determining by year 6 you need to have done this at this level, you tend to get better outcomes and you tend to get different outcomes because you’re not pre-judging what those outcomes will be.

In Australia they seem to work the other was round, innovation comes from special schools and feeds in to mainstream, in the country the governmental innovation goes into mainstream and then we have to work it into a special school to make it applicable to our learners you don’t seem to see policy being shaped with special educational needs at the centre of it, it’s always as an add on or as secondary phase innovation

Int: But you seem to be leading?

Simon: Yes, but we can’t seem to influence as easily mainstream practice in the way that mainstream practice would be seen by policy to influence SEN. We do it through the special schools work we do and bringing mainstreams school in to do all of this kind of stuff.

Have two example CD’s of work from the school.

Staff are more confident in risk taking with technology as there is not the same expectation of outcomes. Children are not nervous of taking risk, they won’t get told off or shouted at. A lot of learning from each other takes place. We lend software and some technology depending on what it is, as some of the technology is quite small.

We are in the process of setting up an e-mac in a local care provision as a number of our children go from here to there at various times for respite care. We’ve provided them with a touch screen they can use with the kids for fun. This enables barriers between the environments to be reduced.
Year 9 Family Group

Eight children in the class, 1 teacher and 2 carers

Interview with Kirsten and Suzy

The two girls (both 15 years old) were working on a project to make an inventory of all the dragons in World of Warcraft. Kirsten is a keen player and has got a character to level 70, which means that she spends a lot of time playing the game – level 70 indicates a serious time commitment. She does know a few people through WoW and is good friend with her guild master – but doesn’t think she will even meet them in real life – you never know who they could be.

Suzy is on Stardoll (www.stardoll.com) a “virtual paperdoll community site”, which is her big interest. Kirsten plays that as well, but for her it’s secondary, although one of her friends from World of Warcraft is also on Stardoll. Suzy is wanting to play WoW, and is currently negotiating with her parents to pay the subscription.

The goal of the dragon project is to collect all of the dragons. Kirsten: “Once we’re forced to take it down, then we.. I’ll probably keep them at home in my diary and find out information about them and continue researching them.” (Although later she couldn’t explain the nature of the research – seems it’s more a collection.) Next they want to do a display on stardoll.

Apart from stardoll Suzy uses Hotmail, Google and plays miniclip games. She researches World of Warcraft for the display. She visits the school website to share her school (pictures, information, sometimes projects and films they did) with her friends in Birmingham where she is from.

I asked whether they were on Facebook, non of them were, although Kirsten’s brother of 11 was. Suzy: “I think it’s not very nice for people at the age of very young to go on Facebook.” Kirsten: “They could get in trouble”. Suzy: “They could get into trouble and they could meet people they don’t know and go and meet them.” Kirsten: “Unless you’ve got kung fu skills!”

I asked how come Kirsten was so interested in spending so much of her time on WoW.

Kirsten: “It’s like a world (?) that you can escape to. It’s like not real life, but.. awesome.”

{...}

Jane: So how come you know how many dragons there are?

Kirsten: Wow Wiki, which is like Wikipedia for World of Warcraft.

Suzy: And it’s got all the lists of the dragons {shows printout of list} basically and how they.. at the side it says whether they are alive...

Apart from Wow Kirsten uses eBay (when she has pocket money). She has recently bought a stick-on tattoo of a dragon.

Suzy does dancing – Latin, Ballroom and Freestyle – she goes on her teacher’s website to see photos of events.

The students recently did a science project in the iWise room (the creative technology suite) where they had to construct padding for an egg to prevent it from breaking and throw it out of the window. They were filming the project and edited the movie.

Both the girls report to use technology a lot both at school and at home. Suzy uses Macs in school and a PC at home – she has no problems operating both. Kirsten has her own Mac at home.
Suzy (unprompted comment): I feel like being on the computer, because it’s.. because like if I’m on the computer.. I don’t know why but I just feel like I’ve been brought up on a computer.

Jane: Really?

Suzy: Yeah

Jane: What makes you think so?

Suzy: Because I spend most of my time on Stardoll. Because it makes me feel like being closer to Kirsten and her friend..