

Learners' use of Web 2.0 technologies in and out of school in Key Stages 3 and 4

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Executive summary

This is the second report from research commissioned by Becta into Web 2.0 technologies for learning at Key Stages 3 and 4. It is the first report based on empirical research and focuses on learners' use of Web 2.0 technologies both in and out of school. It reports findings from data collected using a guided survey of 2,611 Year 8 and Year 10 pupils plus data from 60 focus groups held with approximately 300 learners. Two groups of schools were used: a sample of 15 English schools selected to be representative of a range of school types and demographic variables and referred to as the 'national sample', and a 'Web 2.0' sample of 12 schools selected to be representative of school environments in which Web 2.0 activity was flourishing.

The use of Web 2.0 by young people

The data from these studies confirms that learners have high levels of access to many of the technologies that support Web 2.0 and that Web 2.0 activities are prolific. There are significant, though small, differences in some types of activity between pupils from the national sample schools and pupils at Web 2.0 schools. For example, use of online multi-player games is at 67.3 per cent in Web 2.0 schools and 57.5 per cent in national sample schools; social network site use stands at 79.4 per cent in Web 2.0 schools and 74.4 per cent in national sample schools. This compares to figures for email and instant messaging use of 90.5 per cent in Web 2.0 schools and 89.8 per cent in national sample schools. Patterns of use are complex, and not all learners are familiar with the complete spectrum of Web 2.0 activities. The most popular social networking site was Bebo. Over 78 per cent of all respondents had participated in sharing artefacts (through uploading pictures, video and/or music) with photographs the most common product being shared. Posting one's own videos, voice communication using Voice over Internet Protocol (VoIP) and communication via a webcam are less common.

The primary motivation for engaging with social networking sites is interacting with one's existing social network. The benefits most frequently cited by young people were that Web 2.0 technologies are free and facilitated communication with friends at school as well as those who lived elsewhere or attended a different school. Learners reported finding online communication easier than face-to-face conversation because of the lack of immediate, visual contact. The opportunity to meet new friends (friends of friends) was attractive to some, but meeting entirely new people online was viewed by most learners as dangerous. Significant traffic of messages from 'people I don't know' was reported, with 77 per cent of all learners indicating receipt of messages through instant messenger and 66 per cent through email at some point. There is a general willingness amongst learners to reply to these approaches, although the majority appeared knowledgeable about basic online safety precautions. Learners seemed very aware of how to deal with abusive commentary using the channels available to them in social networking. It appears

that less experienced Web 2.0 users and learners who had no access to social networking sites may be more willing to use their school's email.

Age and gender are factors in the types of Web 2.0 activity learners engage in. Older learners take part in more social networking, general typing/email reading, and browsing the Web. Younger learners do more gaming. Girls are more likely to own and use a webcam and to record video than boys. Boys are significantly more likely to own a Wii or PSP/DS and play more games. There is no significant difference between boys and girls with respect to access to MP3 players, mobile phones or PDAs. Social networking and communication activity is more common amongst girls, and girls in Year 10 reported significantly greater rates than boys of receiving messages from people they did not know through instant messaging and via email.

Types of Web 2.0 User

The types of activity evidenced suggest that of the categories of user identified in the literature, there are readers, gamers, file-sharers, communicators and newscasters (in the sense of sharing experience through social networking sites) amongst study participants. However, relatively few learners are engaging in more sophisticated Web 2.0 activities such as producing and publishing their own content for wider consumption. In order to be motivated to publish content, learners must perceive that publication carries utility for the self or important others. In addition, learners may lack the technical knowledge and skills needed to publish content online. Learners may also be unaware of the potential applications to which particular tools are especially suited. Prior experience with user-friendly social networking technologies may encourage them to see Web 2.0 applications as services that they consume, rather than as tools that they can use to advance their own aims. There is little evidence of groundbreaking activities and only a few embryonic signs of criticality, self-management and metacognitive reflection. These need to be encouraged and supported by any attempt to use Web 2.0 for learning in formal education. There were, however, a few examples of quite sophisticated technical knowledge in discussions of scripting, web page design and caching. There were also examples of learners whose hobbies had engaged them in more sophisticated activities.

Web 2.0 engagement with learning

Only 21 per cent of learners stated that they did not use the internet for work. The range of sites used by learners for learning is limited: Wikipedia, BBC sites and Google account for over 60 per cent of all the sites suggested by learners as those they use for work. Most learners expressed a preference for using the internet to support learning. Amongst the motivations they revealed were the ease and speed with which information could be accessed; the sheer availability of information; and, less commonly, the opportunity to work within different literacies. Interest from pupils in the potential of using a range of technologies to support their work in school

focused mainly on familiar activities such as formal presentation or communication. Learners seem cautious about other values associated with the Web 2.0 initiative, such as the shared construction of knowledge in a public format. The tension between the collaborative nature of much Web 2.0 activity and the individual nature of most school assignments should be noted as a contextual factor here. Despite the fact that Web 2.0 technologies offer great opportunities to work collaboratively, few learners reported engaging in collaborative learning using Web 2.0 technologies other than to support 'chat' about work.

While the data shows that learners have the potential to be critical consumers of information on the internet, they are selective in applying that criticality. It emerged from participant reports in focus groups that copying and pasting information from the internet was extremely common at the schools in this sample. Examples of more sophisticated learning activities were found when the school had engaged learners appropriately. Some learners who used Web 2.0 tools to support informal learning out of school believed that this helped them develop skills that assisted them in their formal learning pursuits. Use of wiki technology is limited mainly to use of Wikipedia. Podcasts, online forums or discussion boards are rarely used. Blogging is not a particularly popular activity, but where it occurred it often did so within the arena of a social networking site such as Bebo. Digital consumers are more prevalent than digital producers, and these practices can vary by technology, gender and age. Some eight per cent of learners in our sample do not use Web 2.0 and 24 per cent do not use social networking sites. Reasons offered by learners for not using such sites were that they considered them to be boring, time-consuming or uninteresting; that they were not allowed to use them; they were concerned about the dangers; they lacked knowledge and that they preferred face-to-face communications.

Web 2.0 technologies in school and out of school

Access to computers and the internet at home is very high in both the national sample and Web 2.0 samples with 98.4 per cent of the total sample having access to a laptop and/or desktop computer and 96.6 per cent having access to the internet. However, virtually all schools were found to have a few individuals who reported lack of access. It should also be noted that the nature of access can be complex. Only a minority have their own laptop or desktop computer, and for most the computer is a family resource, resulting in constraints on the amount of time they can spend using it, as well as when they might be able to do this. The potential benefits here are that shared access to a computer may help with achieving parental involvement in school activities. An indicator of general IT use is provided by figures for email and instant messaging activity: 90 per cent of the total sample of respondents use email or instant messaging out of school, with instant messaging more likely than email to have been used in the last 24 hours. By contrast, learners experience rather little computer activity in school.

Learners spend, on average, more time working on school work on a computer outside school than at school itself, with 34 per cent of all learners estimating that they spend only an hour each week using a computer at school. Learners' use of technology varied widely between use in school and out. Wikipedia is particularly popular both in and outside school, but other activities that could support learning, such as listening to audio and watching video, are used far more at home. Collaborative activity is also higher outside school, as are file-sharing activities such as picture sharing, video sharing and music downloading. Tensions arise from the ways in which school procedures and tools monitor internet use, and while learners acknowledge that inappropriate behaviour needs to be prevented, they perceive blanket bans to be inappropriate.

Implications for policy

The tensions arising from differences between home and school access to and use of technology suggest that caution is needed when considering how best to engage learners in using familiar Web 2.0 technologies for learning both in and out of school. Technology can technically link the home and school, but attempts to use learner engagement with Web 2.0 technologies out of school for formal learning goals must respect the out-of-school digital identities and privacy of learners. If learners are to be able to fulfill their potential, feel valued, and have their achievements recognised and celebrated, as advocated by both the Gilbert review and the Children's Plan, then they need to be offered appropriate ways in which to build on their enthusiasm and the fledgling technology skills they gain out of school.

The lack of significant sophisticated activity by learners that involves more than consumption and social networking suggests that there is a role for teachers in supporting effective learning using Web 2.0. This role may be to ensure that learners have the technical skills to use the tools effectively and the metacognitive, synthesis and critical reflection skills to use Web 2.0 applications to support learning wherever they are. This approach could also support skills acquisition post-16 and the requirements of the Leitch implementation plan. Schools might also take greater advantage of technologies to which learners have free access, such as MP3 players.

There were few cases within this sample where learners had no home access to technology and the internet. However, access may be constrained by other family members' use of shared technology. Careful thought needs to be given to how the potential benefits for family learning may be fulfilled through parent and learner using the same technology. This has implications for the Home Access initiative.

Key findings

- There are high levels of access to the internet and many Web 2.0 technologies: 98.4 per cent of participants have access to a computer and 96.6 per cent have access to the internet. However, learners did not always have free access to shared home computers.
- Over 74 per cent of participants have at least one social network site account, and the use of email and instant messaging is almost ubiquitous.
- Over 50 per cent of participants had shared pictures, video or music in the last week, with photographs being the most common products published and shared.
- Less than 20 per cent of participants use VoIP, and only 36.5 per cent use a webcam.
- Podcast and discussion board use was rare, and use of wiki technology focused on Wikipedia.
- Age and gender influence some technology ownership and Web 2.0 activity.
- Learners like Web 2.0 because it is free to use and facilitates communication.
- Digital consumers are more prevalent than digital producers and there is evidence that learners may lack the technical knowledge and skills needed for production.
- There was little evidence of groundbreaking activities or of criticality, self-management or metacognitive reflection.
- Learner interest in technologies for learning was limited to familiar activities such as presentations.
- Only 21 per cent of participants stated that they *did not* use the internet for work. Use of the internet for research and inquiry was common, but rarely used Web 2.0 tools.

- Copying and pasting from the internet was reported to be extremely common.
- Few learners report engaging in collaborative learning using Web 2.0, although some learners reported using Web 2.0 tools to support 'chat' about work.
- There is a large discrepancy between in-school and out-of-school Web 2.0 use.
- Learners spend, on average, more time working using a computer for school work out of school than in school, with 34 per cent of learners estimating that they spend only an hour each week using a computer at school.
- Only eight per cent of learners do not use Web 2.0 and 24 per cent do not use social networking sites. Reasons offered for non-use were that they were boring, time-consuming or uninteresting; that learners were not allowed; and that they were concerned about the dangers, lacked knowledge or preferred face-to-face communications.
- The majority of learners are knowledgeable about basic online safety.
- There is significant traffic of messages from people they did not know, with 77 per cent of learners reporting receipt of messages through instant messaging and 66 per cent through email.
- Blanket bans on Web 2.0 tools were perceived by learners to be inappropriate.
- The Web 2.0 landscape

Chapter 1 - Introduction

The Web 2.0 landscape

The first report arising from this project: The current landscape – opportunities, challenges and tensions, outlined the changing nature of the technology that has accompanied the evolution of computing hardware and the advent of the internet. This highlighted the existence of the 'ever-present invitation' to take 'personal' computer activity and to socialise it. Recent advances in technical design were outlined, as were the new purposes that users are finding for these designs, and the openings that have been noticed for educational practice. The changes inherent in the Web 2.0 internet were identified as:

- ubiquitous internet access leading to increased user participation
- the migration of user activities to the Web and their concentration within the web browser as a single tool-of-access
- the integration and aggregation of personal and community information made possible through the availability of data on an 'epic scale'
- the 'flattening' of the transactional space and the explosion of user-generated material.

In addition to discussion of these factors, the report also considered specific activities and the families of applications that have arisen to support them. These are described as the Web 2.0 Toolkit. Technologies that enable media sharing and manipulation, blogging, online gaming, social networking, social bookmarking, collaborative editing and community content creation and tagging explain why Web 2.0 is also referred to as the 'participatory web'. These technologies foster social interaction, collaboration, and the creation, mixing, and sharing of content, networking activity and participation. All foster the types of skills and activities that could help support both informal and formal learning as well as recreational activity. These developments in Web 2.0 were summarised in the first report as four broad forms of impact: inquiry, literacies, collaboration and publication. The first two are cognitive, and relate to the process of educational interaction with Web 2.0. The second two are social and relate to the products of educational interaction with Web 2.0.

Web 2.0 approaches can fit well with current curriculum policy goals and with influential frameworks from the psychology of learning and educational practice. This fit justifies consideration of the educational potential of Web 2.0. However, there are tensions and debate, for example, with respect to the digital divide, the mismatch between student and teacher technology acumen and confidence, and other issues such as 'cyberbullying'. The first report highlighted the danger of dwelling too much on the technology and suggested a focus on the way in which recent developments highlight a certain 'disposition' that practitioners might adopt in relation to teaching and learning. It emphasised that Web 2.0 tools alone do not form the necessary

basis for realising such a 'disposition' and that the promotion of such attitudes towards knowledge and knowing is only possible when it is in harmony with the systems of educational delivery, management and assessment.

Other technological aspects that need consideration

Technology hardware

Technology is increasingly mobile, distributed, tangible, invisible and/or embedded. The boundaries between the physical and the digital increasingly blur with the move away from fixed desktop technologies to small, affordable, mobile devices. With respect to Web 2.0, there are implications that arise from this progression for the nature of the contexts in which learners might be taking part in Web 2.0 activities and the extent to which those Web 2.0 activities reflect the detail of their lives. For example, the combination of GPS and a camera in a phone enables learners to add a detailed life trail to their social networking site should they so wish. The increased ownership of mobile devices amongst teenagers, combined with the increased functionality of these devices, means that out of school use of technology – in particular, use of Web 2.0 – has the potential to extend far beyond the home. At the same time, however, many young people use 'pay as you go' services. The expense of using the mobile phone as a networked or ubiquitous device creates a disparity between the functionality of such devices and their actual use by young learners.

The changing landscape around the research and development of Technology Enhanced Learning (TEL)

TEL research and development is increasingly interdisciplinary. In addition, educational technology system design researchers now take more account of the nature of learner and teacher experience with technology than, for example, was the case in the early days of Intelligent Tutoring System design. Adding to this the increase in the amount of work conducted using participatory or user-centred design methods, with researchers increasingly working in collaboration with the learners and teachers for whom the technology is being designed, it becomes apparent that influence on the design of technology now arises from beyond the 'traditional' system design community. The accompanying increasing computerisation and democratisation of technology means that more people can be involved in changing the nature of technology and technology design, and functionality changes more frequently. These changes may not have been part of the original system design vision and may not require input from the traditional system designers. This situation is consistent with the 'perpetual beta' characteristic seen in Web 2.0.

The nature of the product being developed is also changing, with increasingly integrated systems or learning platforms with companies wanting to offer a complete product which includes both kit and content. This integration extends beyond the school into the home, hence its relevance to this report.

An interesting contrast to this can be found in the increased development of Open Educational Resources (OERs) and in the Open Content and Open Education initiatives. These initiatives are linked to the Free / Libre Open Source Software (FLOSS) movement in which many people can be involved in creating and maintaining resources, and also signifies an increase in user engagement in technology design.

The policy context

It is important to remember that these developments coincide with significant changes and discussions in policy. The splitting of the DfES into the DCSF and DIUS makes very clear the recognition of the importance of the family to a learner's education, the need for a skilled workforce and for a system that stimulates, recognises and supports innovation. Several recent reports suggest ways in which the role of Web 2.0 technologies might be explored. This report therefore highlights findings that inform this debate.

The report of the Teaching and Learning in 2020 Review Group, chaired by Christine Gilbert and published by the DfES in January 2007, provided a vision for personalised learning and recognised that whilst much of what is required is already a part of good learning and teaching practice, most schools need to make significant changes if the proposed transformations are to be made to the educational system as a whole. Technology can play an important role in this transformation towards a greater emphasis on a 'demand-led' approach, in which the system is responsive to learners who are able to express their needs because they understand how to learn and how to think creatively in a constantly changing environment. The vision within this 2020 report is for school learning that is connected to what learners already know, including what they have learnt outside school. The potential offered by Web 2.0 technology to support this vision is explored through the findings from these studies. This linking of in-school and out-of-school learning is also picked up very strongly in the Children's Plan, published in December 2007. This plan stresses the importance of the family for learning and the need to offer parents flexible information and support to enable them to engage with their child's learning. Parents' involvement in their child's education is viewed as important and secondary schools are identified as in need of particular attention in this respect. Children's safety is also highlighted as an important area and the relevance of Web 2.0 technologies to this issue will be dealt with in detail in a separate project report on e-safety in Web 2.0. Following on from the Gilbert review, the Children's Plan also calls for an educational system in which all learners are able to fulfil their potential, feel valued, and have their achievements recognised and celebrated. Discussions of personalisation have moved beyond teaching and learning at school and now explore learning at any time and anywhere, flexibly, informally and across the family. The potential for technology – and in particular Web 2.0 – to support this shift is an important area to which this report contributes. The need for universal access to

learning and concerns about digital divide issues are also explored, and represent an area relevant also to the Home Access initiative.

The final piece in the policy landscape that is of particular relevance here is provided by the Leitch Report and Implementation plan. This calls for the UK to become a 'world Leader in skills by 2020'. The issues encompassed by these papers are primarily aimed at the post-16 age range, whereas this research report considers learners in Key Stages 3 and 4. However, the findings here are clearly relevant to what will be the next stage of these learners' lives. The emphasis within Leitch upon individuals taking responsibility to improve their skills throughout their lives, the perceived benefits this can bring for them and their families and the implications for social inclusion are all issues where Web 2.0 technologies offer potential for support.

Chapter 2 - The use of Web 2.0 by young people

The view from the research literature

A review by Green and Hannon for Demos (2007) suggests that digital technology is integrated into the daily lives of teenage learners. An increasing majority are also now involved in creative production, from uploading and editing photos to building and maintaining websites (Grunwald Associates, 2007; Lenhart and Madden, 2005, 2007). However, the numbers of learners who are involved in what Green and Hannon (2007) deem to be 'groundbreaking activities' is small, which suggests that there is still a role for scaffolding activity by more able learning partners. Much participatory internet use is also seen within computer gaming communities, in particular, the online, multi-player, networked games through which geographically distributed users take part in social and/or collaborative activities. Collaborative skills and shared knowledge become well developed amongst participants (Jenkins, 2006) and new modes of learning emerge that are driven by overcoming a shared challenge (Thomas and Seely Brown, 2007).

Learner-generated content is becoming 'a significant feature of the educational landscape' (JISC, 2007). Early investigations suggest that content generated by the learner for themselves and for other learners can be beneficial for learning (Lee et al., in press). Learners who took part in a podcasting exercise were seen to engage in collaborative knowledge building. The activity was seen as 'a powerful way of stimulating both individual and collective learning, as well as supporting social processes of perspective-taking and negotiation of meaning that underpin knowledge creation' (JISC, 2007). The lack of 'groundbreaking' Web 2.0 activity amongst learners is an issue with respect to learner-generated content also. Questions have also been raised about how best to support the creation of content for learning and the formation of learning communities (Wolf, 2007). Sener (2007) confirms that such content creation activities can increase student engagement but asks why there are so few examples of good or effective student-generated content available online. He suggests that enthusiastic learners and good ideas are not enough if there is no imperative to improve quality. Instead, there should be encouragement and support for the move to co-innovation (where learner expertise is recognised as a valuable contribution to the design process and involves novelty in addition to production) as well as co-production and consumption.

With respect to gender differences, a US study conducted in October 2006 on behalf of Pew Internet by Lenhart and Madden (2007) reported that 55 per cent of teens use online networks, with 48 per cent stating that they visit these sites daily, and that 55 per cent have created personal profiles. Older girls were said to predominate, using the sites mainly to reinforce pre-existing friendships, whereas boys were said to use the sites mainly for flirting and making new friends. Gender issues appear to make a difference in terms of older users, where 70 per cent of older girls versus 54 per cent of older boys used online social networking.

A previous study of US teens (Lenhart and Madden, 2005) reported that older girls aged 15 to 17 were the most likely to blog (25 per cent of girls versus 15 per cent of boys) whereas teenage boys were more likely to download music and video files.

Overview of the study

The data reported here was generated from two main sources. The first was a guided survey, involving 2,611 Year 8 and Year 10 pupils. These were drawn from schools selected to be representative of school types and demographic variables (the national sample) and schools that were highly active with ICT and Web 2.0 technologies (the Web 2.0 sample). The second source of data was a series of 60 focus groups that took place with approximately 300 learners from 22 schools. A randomly selected stratified sample of 24 focus groups is analysed in this report. Research contacts at each school were asked to select learners for participation in focus groups according to key stage, and to divide the learners from each key stage into two groups wherever possible: high Web 2.0 users and low Web 2.0 users. Therefore, extracts from focus groups identify learners as 'high', 'low', or 'unknown' level users.

Further information on the data set and methodology can be found in Appendix 1.

The view from the data

The nature of how learners engage with the internet was explored in a number of related items, across the survey, but particularly in relation to email/instant messaging, social networking, and online gaming. Learners' activity was reported more indirectly in relation to the use of knowledge and artefact sharing applications (Wikipedia and picture uploading, for example).

There is an issue of whether engagement with any of these should be reported only for those learners who have the availability to do so (for example, only for those who have internet access at home). However, access to a computer and the internet was found to be so high that this may be a fine point, especially given that learners without access at home may be able to gain access at other locations. On the other hand, some of these activities might well vary according to whether the student has 'mainly-for-me' access or not and this might be considered in relation to computer ownership (although direction of influence in any effect there would not be obvious).

The general extent of computer use was approached in the survey by asking for hours/week spent in various activities. There are two caveats about this. One is that the upper value was conservatively set at 16 plus, but quite a lot of respondents chose this value, so the absolute figures may be an underestimate. Secondly, it was hoped that the various categories of out-of-school use were independent, yet they may have been treated as potentially overlapping. This may mean some

overestimation of time in out-of-school activities. This might make it necessary to keep the 'out of school' categories separate.

The guided survey would have been too long for learners from the Web 2.0 schools who had a number of additional questions, therefore only learners in the national sample were asked about the technologies they use. From the national sample survey, the proportion of respondents with access to various technologies is shown in Figure 1.

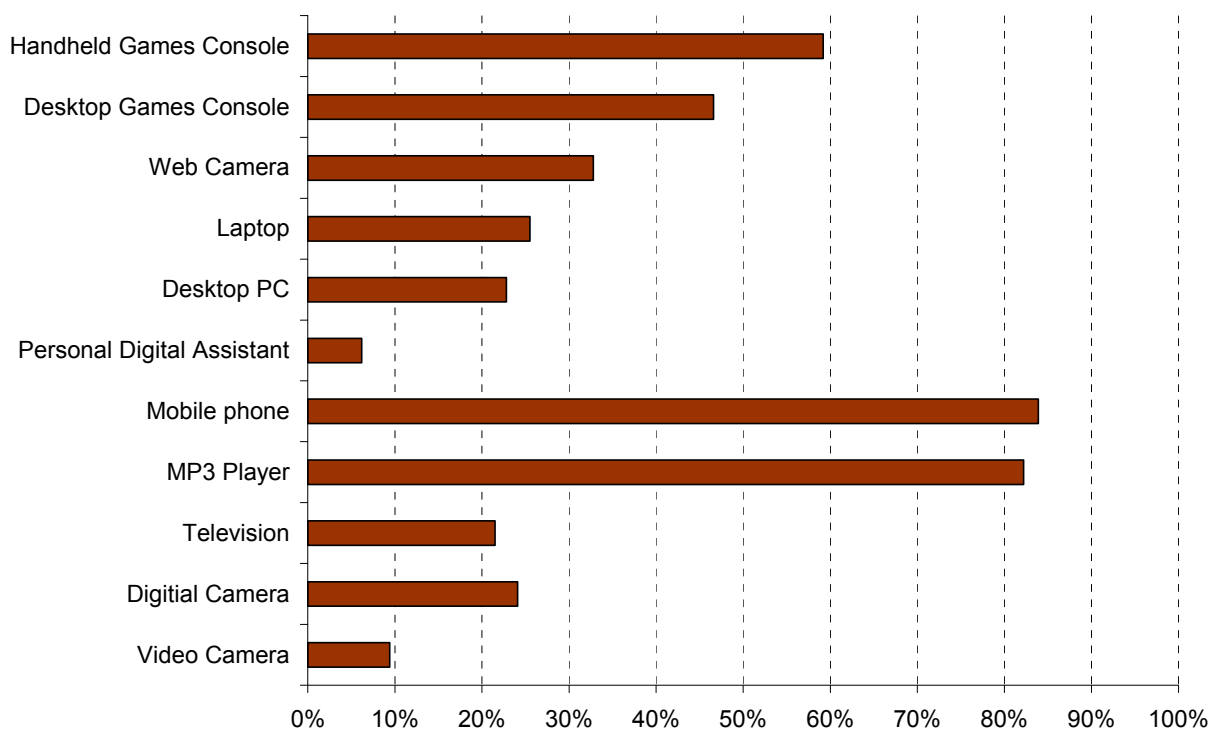


Figure 1: Percentage of 'national sample' learners with ownership of various technologies (N=1510)

It can be seen that access to mobile phones and MP3 players is reaching levels that might be considered to be ubiquitous. This has implications for the kinds of resources that pupils might access outside school, suggesting that approaches such as podcasting might be feasible supplements to formal education. (Pupils unable to access podcasts on their MP3 players could, of course, make use of them on a home computer.) Games consoles, both hand-held and 'desktop' are also prevalent, but it should be noted that these catch-all categories will include a variety of technical formats. Whilst there may be pedagogic and policy interest in the potential of gaming, it is unlikely that any kinds of standardised resource or communication could be made available through these devices at present. However, the growth in downloadable content via consoles may change this situation in the future.

Perhaps unsurprisingly, pupils' ownership of expensive technical items that might be considered luxury goods was relatively low. For these kinds of resource, it would be

prudent to consider levels of access rather than ownership when assessing the viability of different educational activities. Care would also be needed to ensure that activities could be undertaken by learners who have limited time on the computer, and who have to fit this in around others' access.

Looking specifically at Web 2.0 activities, Figure 2 shows how pupils at schools in the national survey sample and Web 2.0 sample compared in levels of use.

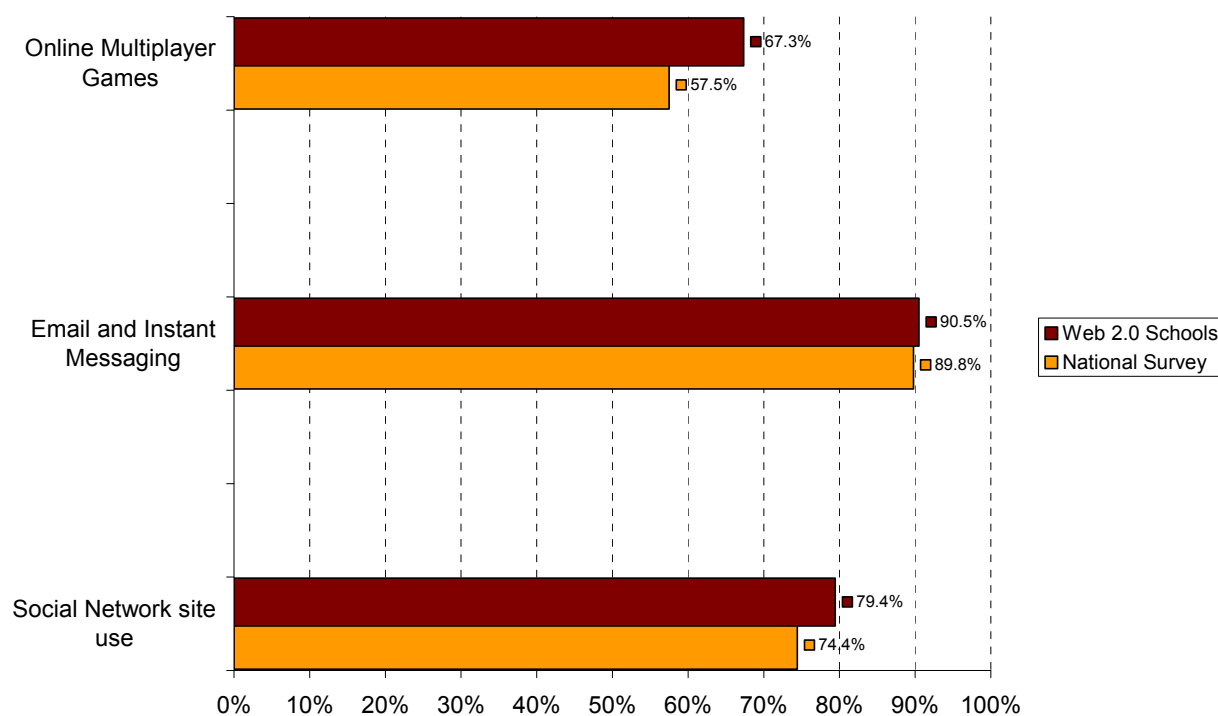


Figure 2: Usage of web technologies out of school by learners at Web 2.0 schools and in the national sample

Levels are high in all settings, and although there are differences between pupils from the national sample and Web 2.0 schools, these are relatively small, being less than 10 per cent even for use of online multi-player games. Use of email and instant messaging, again, has become almost ubiquitous, making it reasonable to consider what roles they might play in a school's communication plans.

Artefact sharing (pictures, video and music)

For this family of activities (picture sharing, video sharing and music downloading), the following findings probably deserve some attention:

- Over 80 per cent of respondents (from both the national sample and Web 2.0 sample) had participated in these activities within the last week. Thus, the absolute level of engagement is high – indeed, as illustrated in Figure 3, around a third had participated in each activity 'in the last 24 hours'.

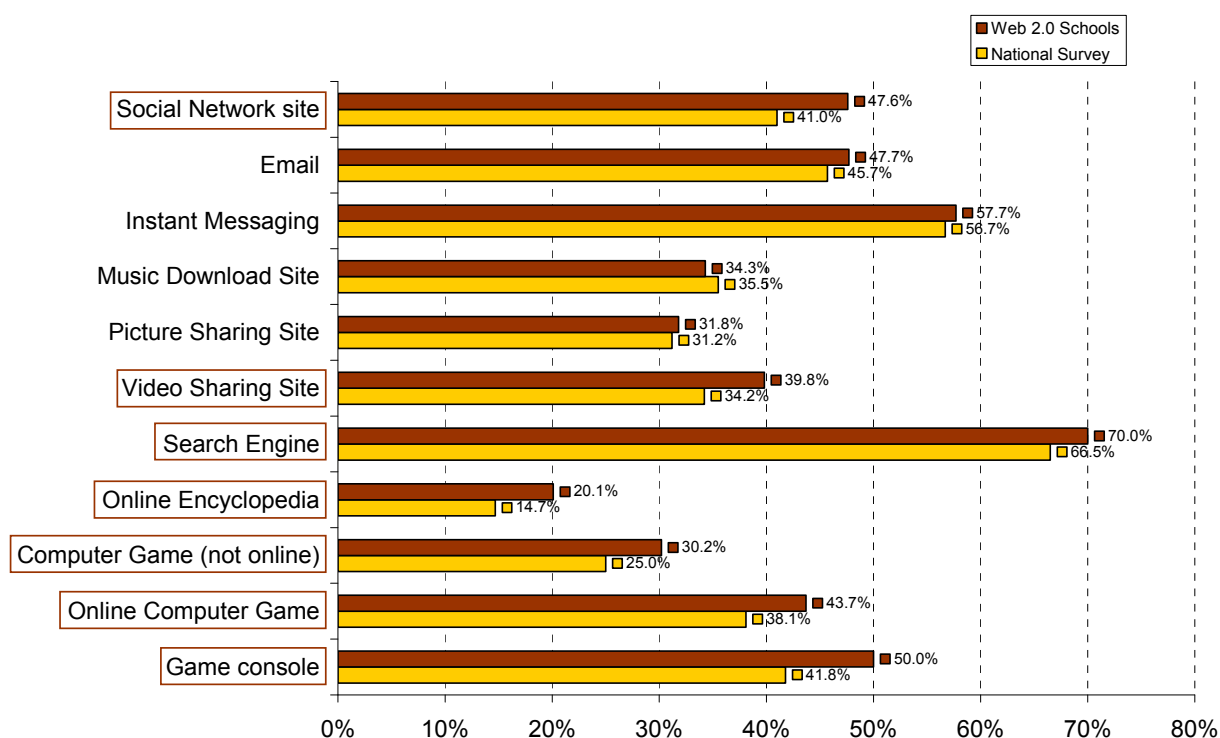


Figure 3: Percentage of learners in Web 2.0 schools and national sample who reported having used named technology in the last 24 hours (technologies outlined by a box are significantly higher in Web 2.0 schools)

- There is a large discrepancy between in-school and out-of-school use of these file-sharing technologies. Most of the activities falling within this category achieve only single figure values in relation to in school use. Pupils from Web 2.0 schools, however, are significantly more active both in school and out of school carrying out Web 2.0 activities such as creating and writing blogs, using social networking sites, editing wikis, uploading audio that's been created to share, commenting on another's file, listening to an online radio programme and using Wikipedia.

Email and instant messaging

Whilst email is not a Web 2.0 technology, its prevalence provides a useful comparison against Web 2.0 technologies and instant messaging. Some 90 per cent of learners use email or instant messaging out of school at some point. Over 65 per cent have more than one email address (this may reflect a school as well as a personal one). Around 28 per cent have more than two email addresses.

Patterns of use are different. Instant messaging is more likely than email to have been used in the last 24 hours (57 per cent/47 per cent) but they are similar in terms of use in the last week (76 per cent/72 per cent). This might imply instant messaging is a regular background activity with frequent traffic whereas email is less impulsively used and could also be a reflection of the way that instant messaging is loaded in the background, and can prompt a user to make use of it (for example, when someone else contacts them) whereas email usually requires an active decision to open that application or website. Other points (illustrated in more detail in Appendix 2) are that:

- Voice communication using VoIP is rare, with less than 20 per cent overall using this either 'frequently' or 'occasionally', but there is a statistically significant difference between the two year groups ($p < 0.001$), with Year 8 reporting greater use of this technology than Year 10.
- Visual communication via a webcam is also less common, with 36.5 per cent of learners stating they had done so. Older boys use this technology significantly less than girls or younger boys.

Learners of different ages

As indicated above, age appears to be a factor in the types of activity learners engage in. The survey data illustrates this well with the main changes observed between Years 8 and 10 being an increase by older learners in social networking, general typing/email reading, browsing the web and also a reduction in gaming.

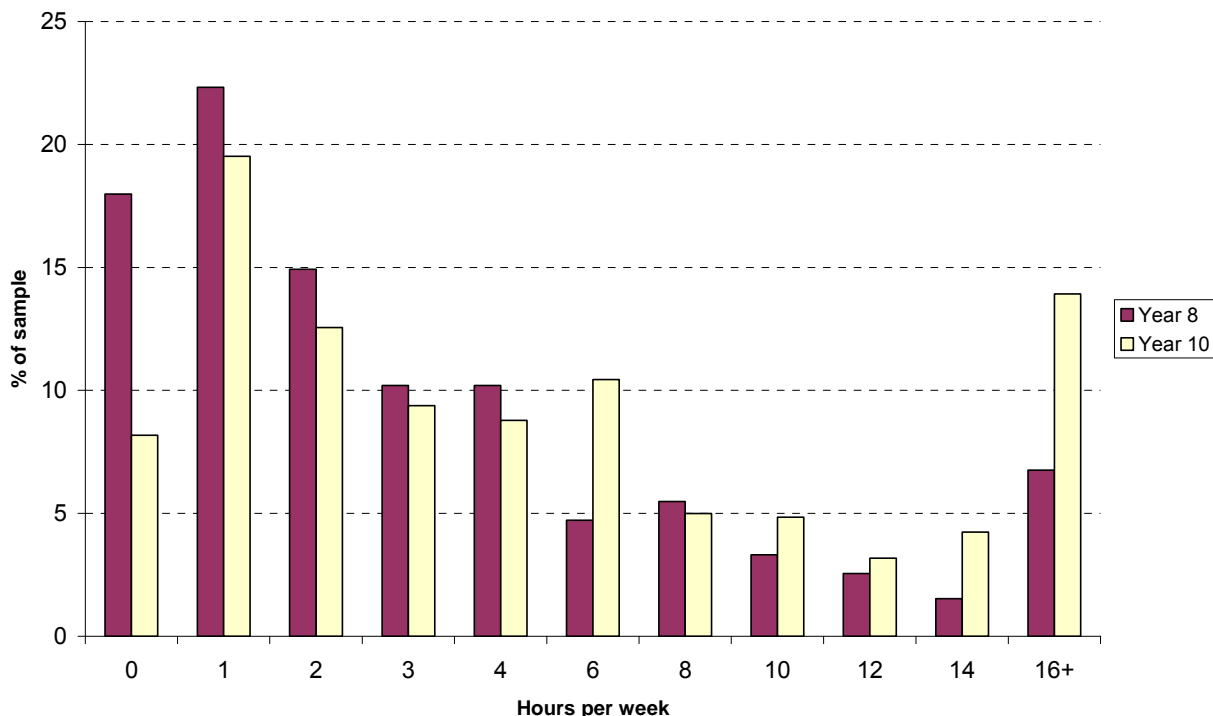


Figure 4: Differences between Year 8 and Year 10 national sample learners in reported usage of computers for reading email and instant messaging out of school (N= 1445)

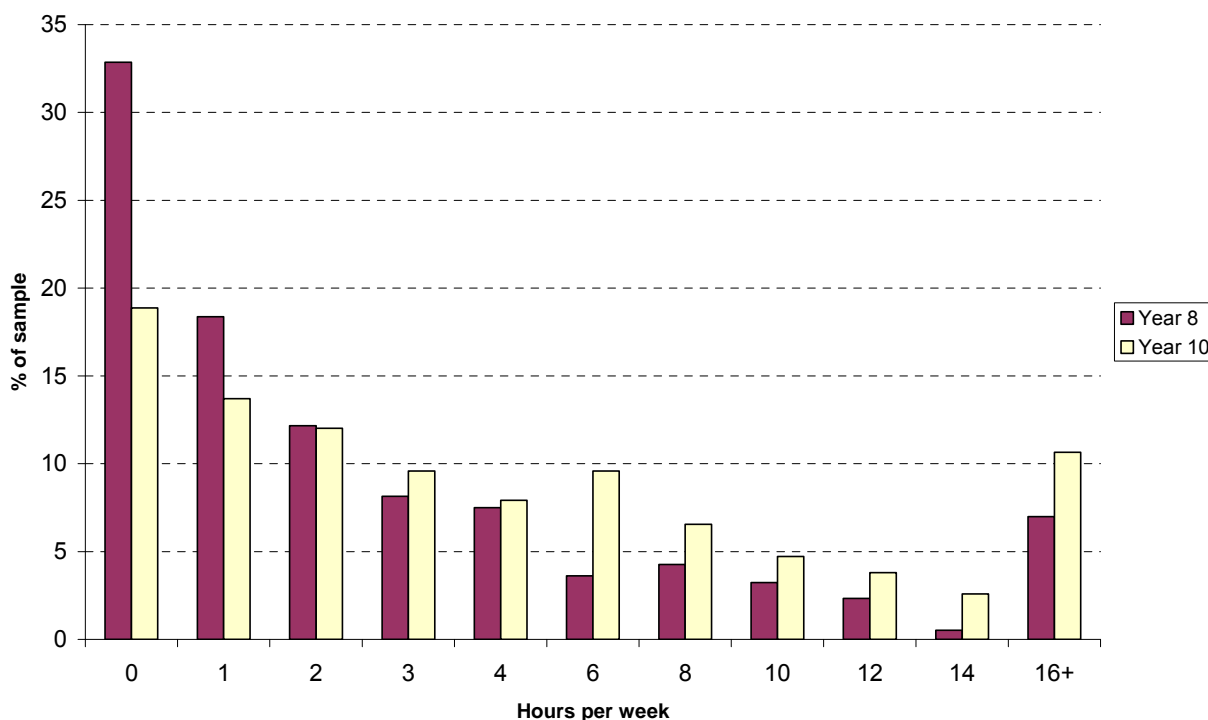


Figure 5: Differences between Year 8 and Year 10 national sample learners in reported usage of computers for use of social network sites out of school (N=1430)

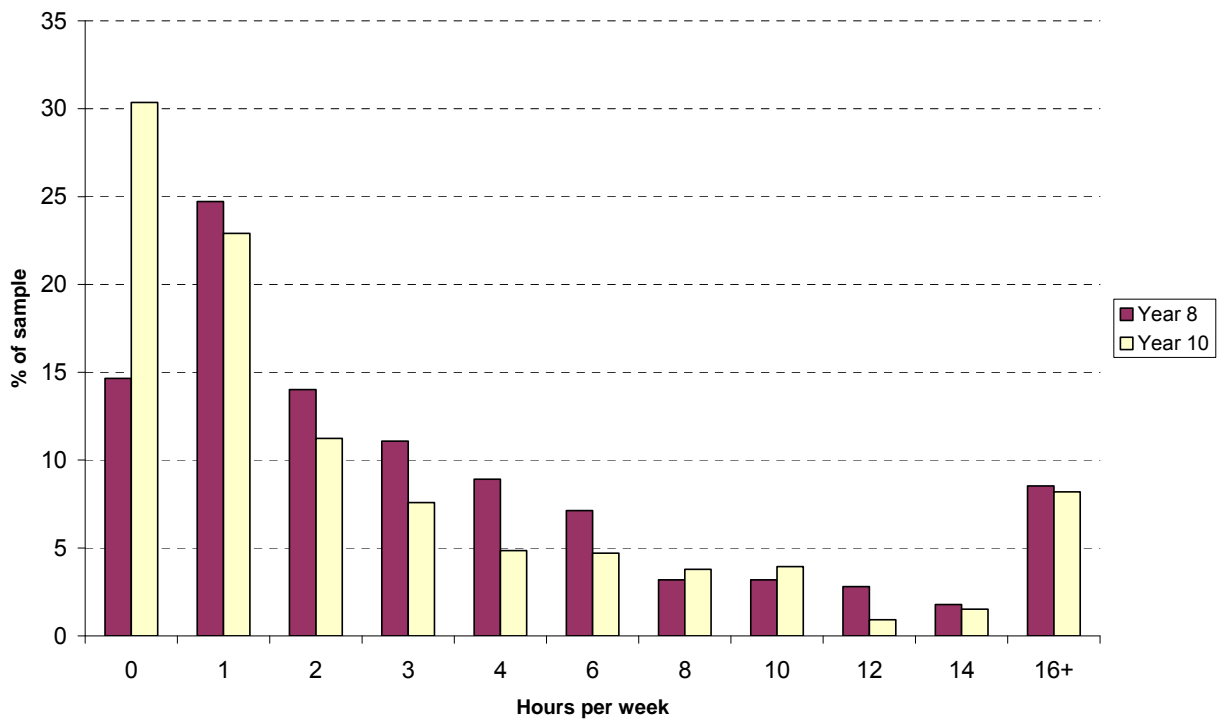


Figure 6: Differences between Year 8 and Year 10 national sample learners in self-reported time spent playing any type of computer games (on and offline) out of school (N=1444)

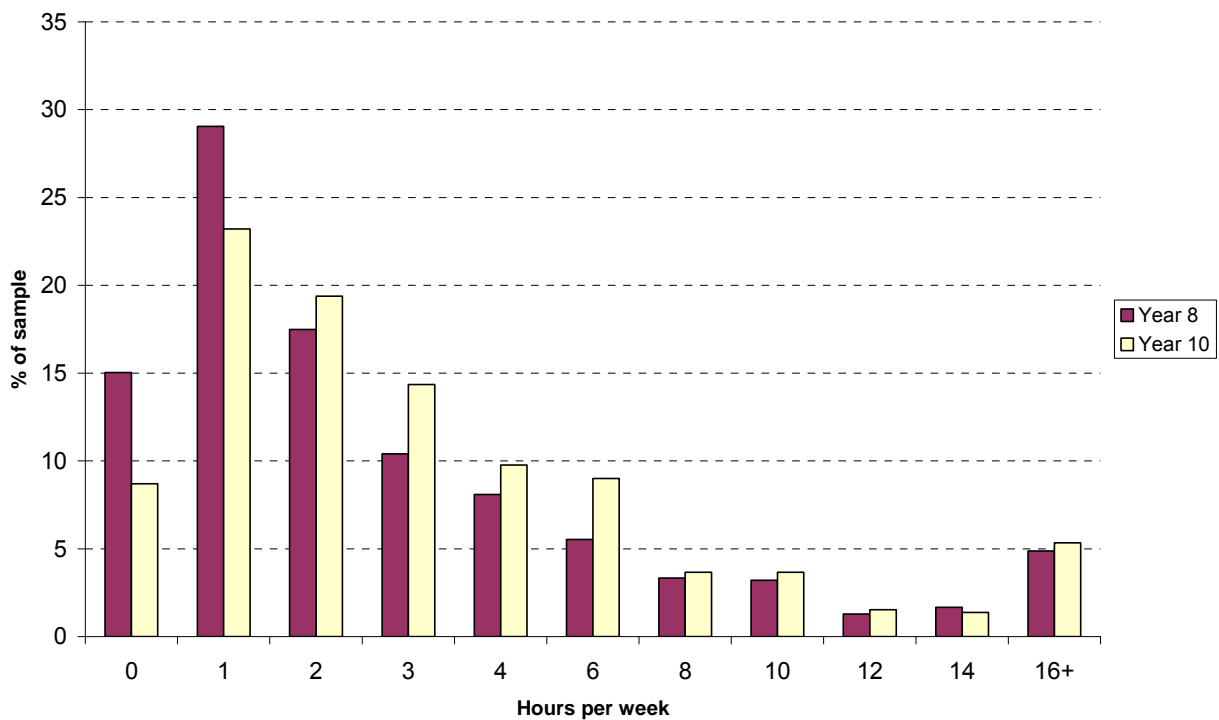


Figure 7: Differences between Year 8 and Year 10 national sample learners in reported usage of computers for general web browsing out of school (N=1392)

Gender difference

Gender is another factor in Web 2.0 activity. Exploration of gender differences come from the survey data. The proportion of learners in the sample by gender and year group is given in Table 1.

		Year 7	Year 8	Year 10	Total
Male	Count	61	591	623	1275
	% of Total	2.3%	22.6%	23.9%	48.8%
Female	Count	82	703	551	1336
	% of Total	3.1%	26.9%	21.1%	51.2%
Total	Count	143	1294	1174	2611
	% of Total	5.5%	49.6%	45.0%	100.0%

Table 1: Proportion of learners in total sample by gender and year group

Learners from Year 7 rather than Year 8 were used in several of the Web 2.0 schools. This was taken into consideration in the analysis; the rate of response between schools varied by 0 per cent and eight per cent, with no differences in response rate between the genders.

There are some indications that private ownership of technology relates to gender and age (school year). Girls have higher webcam ownership than boys, while boys have significantly higher ownership of the Wii and PSP/DS by a ratio of nearly 2:1. However, there is no significant difference between boys and girls with respect to access to MP3 players, mobile phones or PDAs.

As elsewhere, there are gender effects in relation to levels and types of use, with the amount of school work being the same, but more activity on games by boys and more social networking and communication activity by girls (see Figure 8).

	Gender	Mean (Hrs/Week)
At school: doing work on a computer	Male	2.47
	Female	2.45
Out of school: doing school work on computer	Male	2.97
	Female	3.52
Out of school: typing/reading your email or instant messages	Male	3.62
	Female	5.59
Out of school: Social networking sites	Male	3.14
	Female	4.85
Out of school: Games	Male	5.98
	Female	2.31
Out of school: General web browsing	Male	4.19
	Female	3.17
Out of school: Other computer activities	Male	3.17
	Female	2.25

Table 2: The average time spent by each gender each week on selected computer-related activities. All except for hours spent doing school work at school are significantly different normative sample only.

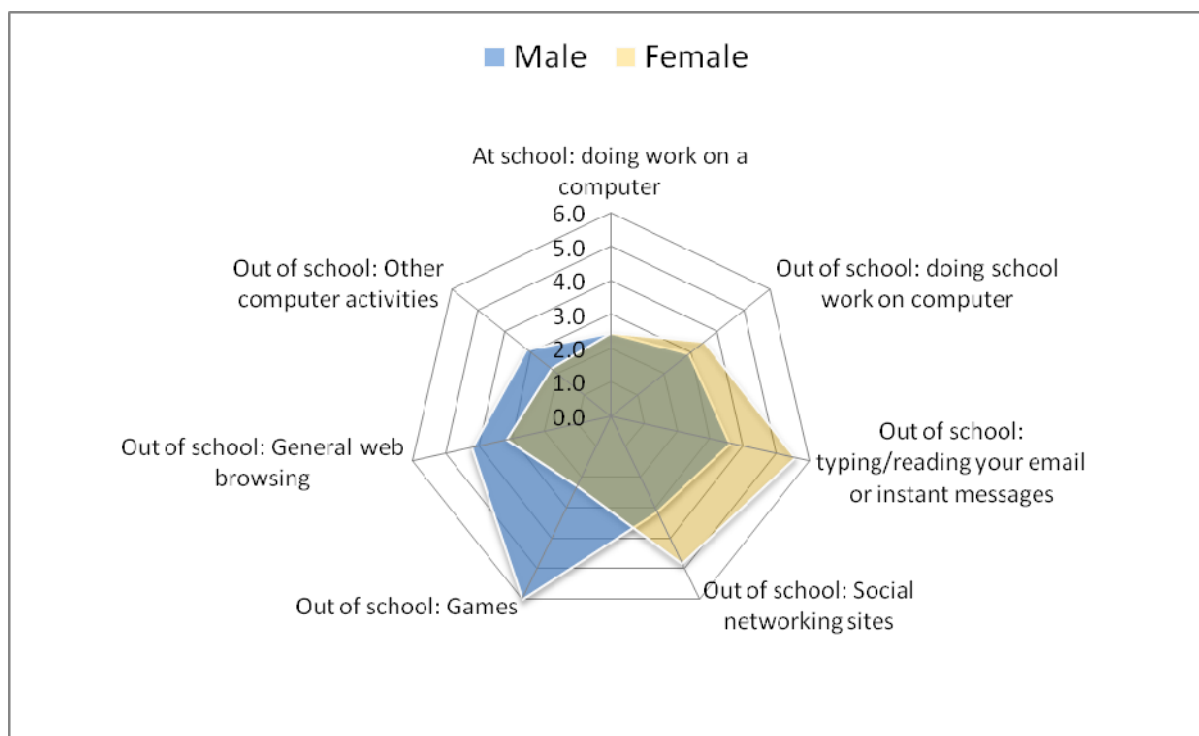


Figure 8: Chart showing average time in hours spent each week by gender on selected computer-related activities. All values except time spent in school using computer for school work are significantly different between genders, normative sample only.

There is a statistically strong difference by gender in some file-sharing activities ($p \leq 0.002$ unless otherwise indicated). Boys upload significantly more video than girls, while girls comment on files significantly more ($p = 0.04$) as well as uploading photos more often, editing more photographs, and are more likely to have created a social networking profile ($p = 0.015$) and created or written a blog.

There is a gender difference with girls in Year 10 using webcams significantly more than boys with 23 per cent of girls using a webcam frequently, compared to only 9 per cent of boys. There are marked differences in this pattern of usage of video between schools. One suggestion is that web cameras are used more by girls to help with their communication with networks of friends.

There is also a gender effect relating to use of email and instant messaging, with girls far more likely to have used instant messaging recently. The effect was still stronger for email.

In social networking more girls reported doing this out of school than boys.

Gaming is more popular with boys than girls, with 72 per cent of boys and 47 per cent of girls having played online multiplayer games.

Girls in Year 10 reported significantly greater rates than boys of receiving messages from people they did not know on instant messaging and via email.

(See Appendix 2 for a more detailed exploration of these patterns.)

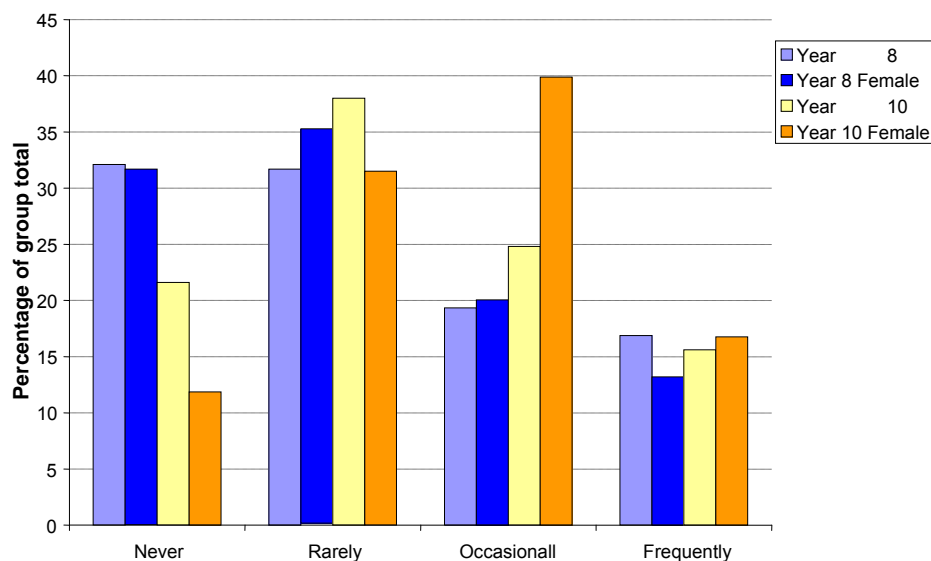


Figure 9: Reported frequency by learners of instant messages from those they did not know, in national sample

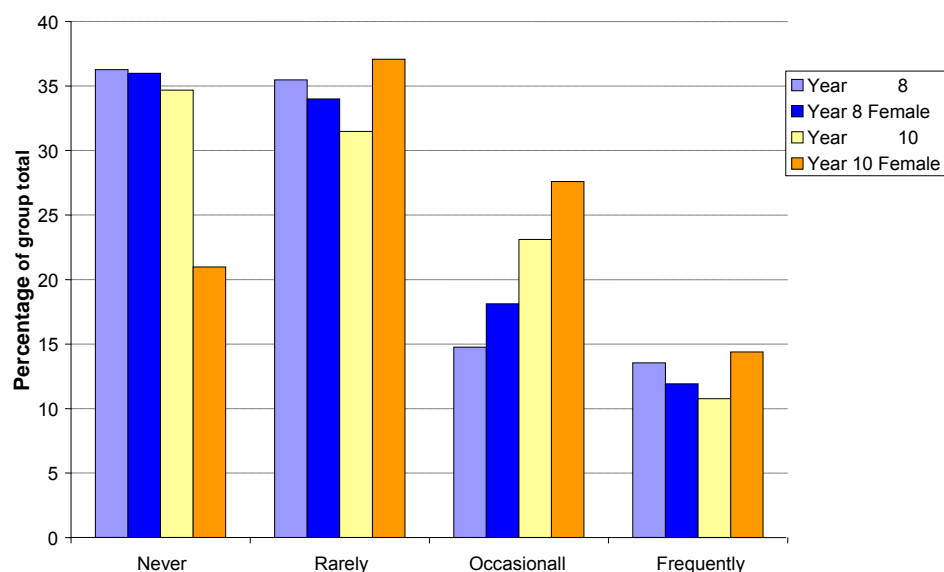


Figure 10: Reported frequency by learners of receiving emails from people they did not know, in national sample

Social networking

The use of social networking sites is extensive: 74 per cent of respondents have at least one account and those at Web 2.0 schools reported significantly higher account ownership, at 79 per cent. Although this does not mean that learners make regular use of these accounts, 62 per cent overall claim to have used one in at least the last week. Pupils from Web 2.0 schools also use social sites significantly more (48 per cent within the last 24 hours) compared to the national sample (41 per cent).

A wide range of sites are used, with over half of respondents nominating at least two. However, there is some confusion as to what counts as a social network site, with nominations including YouTube, MSN and others, which may be because many sites such as MSN now blend social networking aspects such as profile pages with other features. However, concentrating on sites that are recognisably focused on social networking, Bebo is clearly the favourite (53 per cent stating this as their favourite social network website), MySpace second (18 per cent) and Piczo third (three per cent). However, there are some differences in preferences between Web 2.0 schools and the national survey sample; pupils at Web 2.0 schools have a much greater preference for Bebo than pupils in the national sample (W2=64 per cent, NS=45 per cent), are less inclined to use MySpace (W2=5 per cent, NS=28 per cent) and prefer Facebook (W2=5 per cent, NS=2 per cent) over Piczo (WS=2 per cent, NS=5 per cent). These discrepancies in preferences for the different social sites may in part be due to how these sites reflect their main usage by learners of maintaining communication with friends at their school, rather than the wider community.

Online games

Boys reported to be playing significantly more games than girls, with 75 per cent of boys and 50 per cent of girls having played online multi-player games. Runescape, World of Warcraft and Habbo Hotel are widely used but the first two are more popular with the boys while the last is more popular with the girls. The overall range of online gaming sites used is large. In classroom discussions the online collaborative gaming opportunities capabilities of game consoles, such as Xbox Live and Wii were frequently discussed and many learners took advantage of the connectivity being offered by game consoles. This also includes reports of using the wireless capabilities of their PSPs and unsecured networks while they were out of the house to play online collaborative games with friends.

Chapter 3 - Types of Web 2.0 user

The view from the research literature

Green and Hannon (2007) identify four types of user: digital pioneers, creative producers, everyday communicators and information gatherers. Grunwald (2007) makes a special case for the digital 'non-conformist'. Like the 'digital pioneers', these users are engaged in leading edge, groundbreaking activities and are a minority. They are said to possess 'a significant set of 21st century learning skills (communication, collaboration, creativity, leadership and technology proficiency)' and are described as being 'more likely than other learners to be traditional influentials, promoters, recruiters, organizers and networkers'. That both the 'digital pioneers' and the 'non-conformists' are described as having strong digital identities and are shown as autonomous individuals operating successfully in a networking environment outside traditional support networks of parents, teachers and peers is an important issue for the transference of useful skills and 'groundbreaking' innovative practice into formal educational contexts. The ability to take ownership, to make decisions, generate ideas, organise resources and to choose one's own production and distribution methods, audience, purpose and rationale are important elements in user autonomy and should not be lost in the transition from one context to another. In this respect, teachers need to see themselves as facilitators of learning, rather than directors. Green and Hannon (2007) provide some useful guidelines for this:

- Start with the interests and passions of the learners (*self-managed learning*)
- Allow space for critical reflection (*metacognitive development*)
- Value skills obtained in informal settings (*personal repertoire*)
- Equip young people with the necessary skills to make appropriate choices (*criticality*).

An interesting link may be made between types of users and the spaces they inhabit (Locke, 2007). In this respect, the relationship between the user, the activity space and the relationships and content proliferated in those contexts is important. In this sense, users of Web 2.0 technologies may be seen as operating on a continuum between individual-social and passive-active participation. These differences reflect a hierarchy of activities, some of which require a much more complex interaction than others. This difference in quality, complexity and relevance of content to the user experience brings an added value to the notion of Web 2.0 participants as content consumers and content creators. Thus, the kinds of users that might be encountered could be categorised (non-hierarchically) along the following lines:

- Readers
- Gamers
- File-sharers
- Communicators
- Librarians
- Entertainers
- Mixers
- Newscasters
- Writers
- Artists
- Bricoleurs (creation of new material from material already available)
- Media producers
- Animators
- Designers
- Programmers

Users may, of course, adopt any or all of these roles in their use of Web 2.0 technologies.

Erstad et al. (2007) refer to the learner's increasing engagement with digital technologies, suggesting that media education may be regarded as a 'transactional learning space' between in-school and out-of-school learning, and draw on the idea that media education already encompasses formal assessment structures for the appropriate and effective use of media in consumption and productive modes and, as such, this would provide a useful baseline framework in support of the development of critical media literacy skills. In a similar vein, Buckingham (2007) suggests that learners need access to 'cultural forms of expression and communication', that is, they need to develop metacognitive awareness and epistemic frameworks to facilitate their growth as content consumers and producers. It is only through such critical reflection that learners are empowered to act across multiple contexts and cultures.

In the introduction to this report, we made reference to the shift from content consumption to content creation and pointed to the evolution of emergent, ubiquitous and pervasive technologies supporting a wide range of activities and practices across multiple nodes of action. According to Lenhart and Madden (2005), 57 per cent of online teens create content for the internet. Grunwald (2007), in a more comprehensive study of in-school and out-of-school uses of new technologies by young people, reported that young people were doing the activities in Figure 11 online.

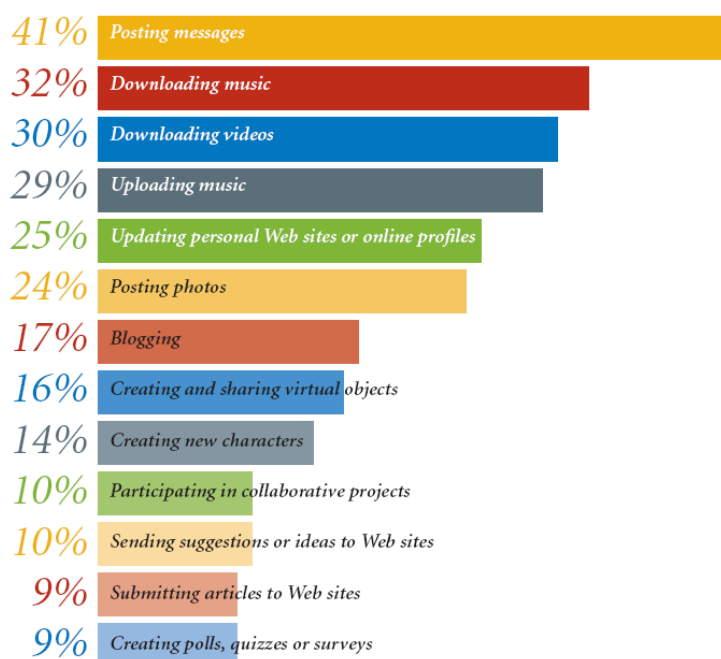


Figure 11: Popular social networking activities: percentage of tweens and teens who say they do these activities at least weekly (Source: Grunwald Associates, 2007)

Grunwald Associates (2007) identify a range of content types: posting messages, sharing music, videos and photos, site building, blogging and creating content (for example online art or story-sharing, virtual objects, puzzles and games); Lenhart and Madden (2005) identify a range of activity types including uploading, downloading, editing, remixing and creating; and Jenkins (2006) considers the impact of different types of online participation around the notion of affinity groups and affinity spaces which Gee (2004a) describes as '-purpose, interest and content-driven'.

So what are young people doing online? They are consuming and producing content (Lenhart and Madden, 2005), playing games (Gee, 2004b; Pelletier and Oliver, 2006), producing video and music mashups and remixing existing content (O'Brien and Fitzgerald, 2006); writing blogs (Lankshear and Knobel, 2006), fan fiction (Lankshear and Knobel, 2005) and online commentary about topics of interest (civic participation, citizen journalism, political voice and others). Young people are participating in these activities not only as individual users but collaboratively and cooperatively as interest or purpose-driven communities of practice.

The view from the data

The survey data reported in chapter 2 provides an overview of the types of technology, both hardware and software that learners in Key Stages 3 and 4 can access and use. The focus group data analysis provides more detail about the types

of activity completed by learners in the schools that took part in this study¹. Some of these activities are explored here; their order of presentation is not indicative of any hierarchy or importance associated with particular activities.

Wikis

Wiki discussions unsurprisingly centred upon Wikipedia exclusively, except for in one Web 2.0 innovating school where researchers addressed a teacher's use of wikis for learning. Learners found the exercise appealing, but it was not clear whether they appreciated the task as a whole, or the Web 2.0 aspects of it, or indeed whether they recognised the task as out of the ordinary; learners expressed that they appreciated learning new PowerPoint skills and the data-manipulation skills within the task, rather than commenting upon the collaborative, participatory or other wiki-characteristic features of the activity.

Wikipedia was the most popular site accessed by learners using the internet for research, behind search engines such as Google. However, only two learners reported actually editing a wiki document: this was done as a joke and one was banned from the site. Year 10 learners at another school, (#N5)², indicated that their peers had done something similar with the school's Wikipedia page. Two users noted that the breadth of information available on Wikipedia was appealing, and well presented, though another learner did not use it because "I can't read all the hieroglyphics." (Female, Year 8, unknown use, #N5) Two learners indicated that Wikipedia was ideal for informal learning: because one can trace information, and because the site presents "little facts, just random ones...and they've got like an article for every day which is always quite interesting." (Female, Year 10, high, #N5)^{3, 4}

Researchers probed learners' understandings of the participatory nature of wikis and the implications this may have on the reliability of information. Most learners understood that Wikis can be edited by anyone, and the implications this had for reliability.

¹ When numbers of learners are specified in discussions of the focus group, data figures are taken from the subset of 24 focus groups analysed for this report.

² In the survey, where schools were coded to preserve anonymity, the letter W or N designates whether the school was from the Web 2.0 school group or the national survey sample respectively. Each school was also allocated a number according to its rank against others in the same sample according to academic performance (further details in the appendix).

³ Individual student respondents are identified according to gender, year group, estimated ICT literacy level by the school and school identifier.

⁴ Learners from each key stage were divided into two groups wherever possible: high Web 2.0-users and low Web 2.0-users, identified here as 'high', 'low', or 'unknown'.

“Sometimes I get confused because it’s written by anyone, sometimes it says one thing and then you look at another website or another part of the Wikipedia page and it says a completely different thing. What do I do?”

(Male, Year 7, low, #W3)

The lack of invested authority given to wiki editors mattered to some learners:

“Well, you can go onto a book website – if they have a website – or the author’s website. You could find something on there and then you know it’s true because it’s from their website. But, on Wikipedia just friends can go writing.”

(Male Year 10, low, #W2)

For this learner, the authority given to traditional authors is greater than that given to Wiki editors, though it is not clear if the learner understands this to be a result of editorial processes or if this authority is part of a general attitude about authors. For another learner, the participatory nature of wikis was problematic:

“You were saying about, that Wikipedia should be more factual, but if there’s going to be people that are going to write stuff about certain issues then they shouldn’t be allowed to edit things... They can’t be vague or anything. They’ve got to keep it fair and honest. They should at least try to be truthful.”

(Male, Year 10, low, #W2)

This learner’s need for a rule set governing wiki contributions suggests some learners’ perception that Wikis are currently unreliable and ungovernable. It points to the need for learners to be confident about the trustworthiness of Wiki contributors, and a preference for some sort of external guarantee about the reliability of information. One student, when told anyone could edit Wikipedia, said “I’m never going on that again, then” (male, Year 8, average).

Most learners indicated that they were dubious about the reliability of wiki information, though few indicated that they consistently verified the truthfulness of information found on Wikipedia. Strategies included looking for obvious mistakes or jokes; clarifying conflicting information with a book or a parent; believing what was written without pursuing confirmation; and believing that Wikipedia “picks up the best information because everybody is commenting on the same kind of subject, I think it picks the best one to use on the website” (male, Year 10, low, #N6).

Podcasts

Despite the widespread access to MP3 players reported earlier, only five learners at two schools indicated that they listened to podcasts. The high use of video-sharing and music-sharing websites indicates this should not be taken to mean that they would not, in principle, appreciate the medium. The limited data suggests that learners’ unawareness of podcasts, especially those made by non-traditional

producers, may contribute significantly to their failure to engage with this tool. Indeed, a learner at one school, when asked about the possibility of making podcasts, thought “it’d build self-confidence for some pupils, if they’re shy” but was concerned that pupils might misbehave by “playing them really loud or annoying people with them.” (Male, Year 10, low, #W2)

One learner indicated that he was introduced to podcasts through a relative who works in IT education, receives monthly podcasts, and saves ones of interest on the topics of animals and sport. Another learner at the same school indicated that he had listened to podcasts made by another learner. “I’ve listened to a couple but I don’t listen to them regularly – I just don’t find the time to listen to them really.” (Male, Year 10, low, #W2)

Forums/discussion boards

Learners from only three schools reported having used online forums or discussion boards. Examples quoted were related to games and music.

Online multi-player games

Online multi-player games proved fairly popular across the sample. These games involve simultaneous engagement by multiple users connected via the internet, usually by computer. They tend to be more complex in design than other games, offer opportunities for online chat with other players, and enable the use of user-designed avatars. They may require collaboration to successfully proceed and can also be considered 'virtual worlds' (Second Life, for example) as much as a game.

Some learners adamantly did not wish to engage with these types of games. For one, the opportunity to build social relationships presented a problem rather than a potentially positive experience. “I’m just not a particularly confident person when it comes to you know, like engaging with people, like, so that doesn’t appeal to me that much” (male, Year 10, low, #W9). Cost was prohibitive for at least six learners. For others, the entire enterprise of games was seen to be without merit. One group of girls asserted that only boys used these games, an assertion protested by a game-playing female member of the group.

Despite this minority viewpoint, many learners played these games against friends, particularly when such games were played across games consoles, and there appeared to be a divide between learners who would only speak to people they knew – sometimes having a strong representation of their friends on these games – and learners who would engage with strangers. “I’ve never really chatted to people that I actually know. I only just talk to people like ‘Hi’” (male, Year 7, low, #W3). For other learners, the opportunity to broaden one’s friendship networking in these games was a key motivating factor, along with creating and interacting with other character creations:

"I think like being able to meet people on the internet and like talk to them, that's kind of like good, but like inventing your characters and stuff, that's quite fun as well. Like meeting different characters, that's fun."

(Male, Year 10, low, #W9)

"You can talk to people that are like from different countries and stuff like that, so you can learn about them... they've turned out to be good friends."

(Female, Year 7, unknown use, #W4)

Learners reported that not only could friendships develop on these sites, but relationships as well: "my friend...she said 'oh I've got a new boyfriend on Habbo'" (female, Year 10, high, #N9), though this was viewed by some as potentially unsafe. Learners reported using chat to solve problems together. The chat function was not used by some learners, and two learners reported avoiding chat with other gamers.

The rich nature of these online worlds led to an extra level of motivation to interested learners, though many of the common features between these and more traditional styles of games were appreciated (such as completing levels, "killing people" (male, Year 7, low, #W3). "It's like a community. It's like you're building up to something" (male, Year 10, unknown use, #W3).

Some learners liked the fact that they could "ride stuff or buy stuff on it and you get rich as well... some people like to dream they're rich and then you can be rich on World of Warcraft" (male, Year 7, low, #W3). Indeed, online accumulation of riches was mentioned as fulfilling for two other learners. For others, the less hierarchical progression of the game proved appealing: "you can do anything you want on it" (male, Year 7, unknown use, #W4). The opportunity "to set myself challenges" (female, Year 8, low, #N9) was valued by one learner.

However, for these games, riches can come at a real-life price, which learners had to choose whether they (or their parents) would absorb. Whether the cost is worth it appears to depend on whether the learners come to value their online purchases as having real-world value in terms of absorption in the game:

"...It gives you something else to do and sometimes I get really addicted and you want to play them more and, a bit like RuneScape, I like that a lot, and sometimes they put, on the website, £3 for a membership and it says you get all this stuff and you think ooo that's good, I'm going to waste my money on that and then your parents go, it's a waste of money and once you've spent it, you think it's a waste of money. ...I figure out how long I actually stay with it before I actually buy them."

(Male, Year 8, high, #W2)

For learners, the cost has to be seen as an investment in the virtual world in order to be worth the real-life funds. One learner, however, noted that if one was highly skilled, one could then sell a gaming account to interested buyers on eBay.

Blogs

Bloggging was not a particularly popular activity across the sample, but where it occurred, it often did so within the arena of the social networking site. Bebo is one site that enables its users to post blogs. However, two learners noted that whilst they knew they had a blog on Bebo, they did not know what a blog was used for. One learner had a blog but “only a little one...you have to write too much” (female, Year 8, high, #W9). The blogs that belonged to social networking sites were perceived to be for “random stuff that you find funny” (female, Year 10, high, #W9). Learners did report reading peers’ blogs on these sites, particularly to keep up with social goings-on: “You keep up with everyone that’s fallen out, and stuff, and who’s not talking to each other” (female, Year 10, unknown use, #W11). There appears to be a tension between some learners, who perceive blogs to be primarily focused around the self, posting quite detailed descriptions of themselves and their thoughts, and others who believe that “if a blog is an online diary then what’s the point? Because aren’t diaries meant to be secret?” (female, Year 10, high, #N5). Only one learner specifically mentioned that she received comments on her blog, but as this issue was not followed up more instances may have been found upon probing. Learners at one national sample school described blogs as being quite popular to read, though not to produce.

For one learner, blogs were a way to find out about popular sites on the internet – with specific reference to learning, this included history and geography projects. Another learner had made use of an RSS feed to keep updated with the blogs he reads, but he noted that he mostly used the forum on the blogging websites he used. Another learner found blogs useful resources when researching opinions: “Other people’s opinions I find quite interesting...you often get homework, you know, ‘Research opinions on these matters’” (female, Year 10, high, #N5). Blogs for fan-fiction were also known, but not used, by a group of girls at one national sample school. Blogs were perceived by one learner as problematic tools through which to engage in conversation because of their asynchronous nature.

Using blogs in the classroom proved motivating for those few learners who had reportedly experienced it, as the experienced encouraged them to continue the activity at home and to share information with young people internationally.

Instant messaging

A high number of learners found instant messaging an appealing way to communicate with others online.

The primary use of these sites was to maintain existing friendships. One of the main advantages of using instant messaging services rather than the telephone was the absence of cost to the user. The ability to talk to more than one individual – sometimes in chat rooms but more often through multiple, simultaneous

conversations – was also motivating: “You can have one-on-one conversations with, say, seven people which usually if you meet seven people you can’t do that with all of them” (female, Year 10, high, #N9). The ability to maintain friendships with geographically distant peers or family members – whether local or international – was important. Learners who reported meeting new people only reported sometimes doing so with complete strangers, but most of the time with a “friend of a friend” (female, Year 9, high, #W10). One learner reported having “endless conversations with some of [my friends]” (female, Year 8, unknown use, #N8).

Learners sometimes used instant messaging to arrange face-to-face contact with peers, or to leave messages for each other that would be seen when their peer logged on.

Some learners with internet access at home did not engage with instant messaging because of the need to negotiate time on the computer with other users at home, and because the program could be slow when used with a dial-up internet provider. One learner felt she “wouldn’t really like to go on MSN as well, because it is just talk” (female, Year 7, low, #W3), indicating that for some learners, this form of communication needs an added value above that of telephone or face-to-face communication to be compelling.

Learners reported misunderstandings to be fairly common when using these technologies, because of the absence of gestural and other non-verbal information that would otherwise be used to help interpret ambiguous statements, such as “calling each other daft names” (female, Year 8, high, #W2).

Email

Although this is not strictly a Web 2.0 technology, the project decided to investigate email use, in order to gain fuller understanding of young people’s internet use, examine issues that may arise from using asynchronous communication, and compare this activity with use of Web 2.0 tools. For some schools in this project, as well, use of email was an important issue in opening up the internet to their learners. A small number of schools in the sample had set up email accounts for their learners. In these, an interesting divide between low and high Web 2.0 users manifested, as low Web 2.0 users were more willing to use their school’s email accounts. Low Web 2.0 users at one school noted that the appeal of using the school’s email system lay in knowing that you can only talk to people at school; having easy access through school; and not having to engage in setting up the account. They used the email system for both personal use and for work, particularly to send work to teachers. One learner within this group noted that he still maintained a personal email account at home in order to receive newsletters from gaming websites which would be blocked on his school account. High Web 2.0 users at one school believed their email system to be poor for communication because “hardly anyone goes on there” (female, Year 8, high, #W9). Learners at that school were

also wary of using email because “they watch what you say” (female, Year 10, high, #W9). High Web 2.0 users at this school reported using the school email for mainly academic purposes, whilst low users used it socially as well.

Email appeared to be more accessible for those learners who had no access to social networking sites because of parental restrictions. Email was also the preferred way for learners to contact their teachers using the internet, as reported by learners in three schools.

Email was preferred by some low Web 2.0 users in another school to instant messaging:

“I think email’s a pretty good way, because you can still write kind of formally and it’s, although it’s not instant, you still communicate and I think as we spend so long at school... you often find yourself in a group with your friends anyway, so you talk to them then... but not so much instant messenger.”

(Male, Year 10, unknown use, #W3)

Social networking

As expected from the survey results, focus group data suggested that the most popular social networking site for the learners in these focus groups was Bebo in all schools, then MySpace, Facebook and Piczo depending on school.

“Bebo’s like made for our age and Facebook is made for the older people.”

“MySpace is for our age.”

(Year 8 mixed #N5)

This may also relate to learners’ reported ease of use with Bebo and also to issues of a critical mass of users converging upon certain sites, as discussed elsewhere in this report. Participants occasionally reported belonging to more than one social networking site – this was usually because of having access to different friends, but one participant said she used multiple sites because “MySpace is harder and stuff and you have to do, yes, you do more stuff on MySpace...” (Female, Year 10, high, #W10)

The most common product being uploaded and published onto social networking sites by learners is photographs: learners report sharing photographs using these sites, and participants reported that uploading and sharing photographs was common practice amongst their friends. It appears that most photographs are of the user and/or their friends; however, one learner noted that he distorted his profile picture to protect his privacy, and another that he used photographs of television figures for his profile.

Learners tended to characterise their photographs in a general way: for example, “you can put pictures and stuff on” (female, Year 8, high, #W2). One learner reported that “I usually copy other people, whatever they do. If friends have pictures of just their face up, then I’ll do that.” (Female, Year 8, unknown usage, #W11) The social rules governing when it is appropriate to look through the full extent of an online friend’s photos was also touched upon – it was felt that if you did not know your friend that well, “it’s a bit weird” (female, Year 10, high, #N9). Conversations centred more towards the sheer volume of photographs which can be published on these sites, which gives a sense of how engaging this form of communication is for learners. They described the benefits of using social networking sites to capture and publish shared social experiences: “Like I was at a party but I didn’t bring my camera, then I could go and look at the pictures if someone else has been at the party... You get a couple that may be nice, whatever, or they have 50 or whatever. But if it’s an occasion then yes, it’s nice to look at photos” (female, Year 10, high, #N9). Said another, “Some of my friends are obsessed with Bebo pictures and they’re like, oh my god, what shall we do now, take Bebo pictures” (female, Year 10, high, #N9). Sharing photographs appears to therefore be a significant part of the social networking experience for these learners. Others prefer to look “...and then it's not necessarily sharing pictures, it's just looking at other people's” (female, Year 10, high, #N9).

The types of photographs that learners post on these sites may be of concern to parents, teachers and other adults responsible for young people’s welfare. The question of how explicit a young person’s online presence may be, unsurprisingly proved a difficult one to broach consistently in focus groups: it may be difficult for young people to admit to their own (or their friend’s) publication of provocative or explicit material, and they may not hold the same standards of what is explicit as do adults. The issue was only able to be overtly addressed in one focus group (Y10, high, #W9):

Researcher: ...How about the sort of photos and things that people put on these sites? Like sometimes you hear someone’s got –

Female: Untasteful ones going on there.

Researcher: Yes? Does that happen quite a bit here?

Female: Quite a few people do, yes.

Male: Yes.

Female: Yes, I know a few people with revealing pictures on their Bebo... I think the police have started telling some of them to take them off though. Because my friend... she got told by the police to take it off.

Researcher: Yes? And do guys do that as well....?

Female: They go topless, basically.

Male: Quite a few do, yes.

This excerpt suggests that some learners, both male and female, are publishing suggestive photographs, and that occasionally this is picked up by local authorities (it was unclear to the researcher how this photograph came to the police's attention). The absence of this type of discourse from the other focus groups indicates that this is a sensitive topic to discuss with young people and that it is therefore difficult to accurately gauge the prevalence of this practice. The findings that young people find photo-sharing a compelling way to bond with their peers also suggests that this behaviour may be embedded within the overall presentation of identity to peers (which is intended to be consumed by peers), rather than an attempt to explicitly endorse a sexualised identity – though the very limited amount of evidence available makes this a tentative interpretation.

Posting one's own videos onto social networking sites was found to be a very rare activity, with only two learners doing this, though the popularity of YouTube suggests that recommendations for popular videos may be spread through these sites. The example given by one learner was of capturing socialising with friends, and did not serve an overtly educational purpose. Posting music was found to occur with slightly greater frequency. It was not apparent that the music posted was created by the learner.

Motivations for using social networking applications

Unsurprisingly, the primary motivation for engaging with social networking sites is interacting with one's existing social network. Learners found these sites useful for keeping in touch with friends, even when these were friends from school.

Other learners indicated that they used social networking sites to develop the friendships of young people whom they had already physically met, but were separated from geographically (friends from holiday, for example, and friends from previous schools).

"...Sometimes the school day can seem to go pretty quickly and so our lunchtime isn't long compared to the amount of time we spend in lesson, so...I suppose an advantage of networking programs online is that you could speak to them outside of school as you would in school if you were in the same class."

(Male, Year 10, unknown usage, #W3)

“Because like if someone that you know comes from a different country or different place or doesn’t come to this school then it’s easier to hear from them or talk to them through that than just picking up the phone.”

(Female, Year 10 low #N4)

Expanding one’s social network also figured heavily, though not necessarily with completely unknown individuals. Some learners said they had, or had concrete plans to use social networking sites to expand their social network beyond its current boundaries. The range of contacted individuals varied from a person in a band on whose site the learner left a comment; to friends of friends; to members of forums; to learners at a school in a region to which the learner was moving; to others unknown.

Learners’ perceived advantages of using social networking sites to communicate with friends, instead of face-to-face communication, were both practical and attitudinal.

From a practical perspective, financial and geographic considerations predominated. Social networking is generally free for learners: “You can talk to them for longer. It doesn’t cost.” (Female, Year 8, unknown usage, #W11) One learner noted that multi-tasking is possible whilst chatting to friends online. (Female, Year 8, high, #W9) The sites enabled learners to interact with friends despite poor weather, or without prior arrangement.

Social networking sites also involve additional applications which some users found engaging: learners mentioned that non-essential applications such as quizzes, surveys, blogs and bulletins were of interest to them. Others, however, found these extras tedious, which may have something to do with the particular formats and features of the types of sites available for use by young people:

“Another thing about Bebo, there’s this online kind of drama series called Cape Modern and it’s always on Bebo. When I was first introduced to Bebo it said ‘Kate has uploaded a video’ and I was just thinking ‘Who the hell is Kate?’ and it kept coming up with this Kate person and I had no idea who it was and then every time I signed on Bebo it said ‘Rest in peace, Kate’ because she’d died in the series or something and ‘Who killed Kate?’ and things like that, and it’s really annoying and it’s not even that fun to watch.”

(Female, Y8 mixed #N5)

The ability to comment on other learners’ pages was valued by some learners, and seemed to encapsulate the 'addictive' nature of these sites for some learners, particularly as these features quantify something as abstract as communication or emotion: “...and you get like addicted to it. You know when you get a comment oh I’ve got a comment. Great.” (Female, Year 10, high, #N9)

Not all commentary is positive, but learners seemed very much aware of how to deal with abusive commentary using the channels available to them in the social networking site:

Male: You can't put anything rude on Bebo.

Male: Because like Bebo pull it sort of thing.

Male: Yes, Bebo will delete your whole account if you do.

(Year 10, high, #W10)

There is the understanding and expectation, for these learners, that the social networking site is monitoring users' activity and will take action. It appears as though these learners' understand Bebo's policy to be proactive, rather than reactive in response to complaints; however, other learners expressed that they could make a complaint if they felt comments were abusive.

Online communication poses particular challenges for learners, not all of which are within the scope of this report. However, it is relevant to consider what aspects of online communication make social networking sites particularly appealing to some learners. Learners found online communication easier than face-to-face conversation because of the lack of immediate, visual contact. Social networking tools also enable learners to "think about what you're saying before you actually say it" (female, Year 10, high, #W10).

It is important to emphasise that not all learners were impressed with, or approved of, these features of online communication. The more pernicious aspects of the features will be explored elsewhere in this report. The lack of access to gestural and other non-verbal information was problematic for some learners. But one group of learners expressed that at its essence, online social networking was not very different from its offline counterpart:

Female: I think Bebo's made out to be something very big. But if you think about it, what it actually is and what you actually do on it, it's really not that terrific.

Male: Well it is quite good, but not overly good.

Female: It's just commenting on people's pages and taking photos and it really takes the basics of the program or whatever.

Female: You might as well just meet up with your friends.

(Year 10, high, #N9)

In this exchange, whilst social networking sites are seen as fit for the purpose of socialising, the actual interactions within this arena are not seen as a radical departure from friendship activities pursued offline. Notably, what is absent from this exchange is a conversation about those aspects of Web 2.0 communication distinct and which may be of more concern to parents and teachers: namely, permanence within the internet and the ease with which information can spread. One learner, in contrast, was well aware of this potential, and used this to guide her actions during an argument with a peer: “I just blocked [her] because I don’t see the point in falling out over the internet because it just makes everyone read it and know what’s going on, and stuff, and it’s got nothing to do with them” (female, Year 10, unknown use, #W11).

Levels and sophistication of use

The focus group data sheds some light on the ways in which learners in Key Stages 3 and 4 are, and are not, using Web 2.0 tools for more sophisticated activities such as production and publication.

Despite learners’ avid consumption of products using Web 2.0 tools (YouTube, for example), relatively few learners are producers and publishing self-created content for wider consumption. Insights from focus groups with learners in Web 2.0 innovating schools, including one school in which all learners are given individual home pages, may shed light on this divide between consumption and production. At one school (#W9), all learners are provided their own web page which they can personalise with relative freedom, subject to constraints upon language etc.

Results suggest that in order to be motivated to publish content, learners must perceive that publication carries utility for the self or important others. For some learners, utility is satisfied through the creation of a personalised space – this appealed to most learners who had experience of publishing, and particularly to low Web 2.0 users. “You can like share your life with other people and nobody will mind about it because it’s just your life and you can put what you want on it” (male, Year 10, low #W9). The opportunity to choose style formats was appreciated by another learner, and still another valued that she could continue the project at home. One learner noted that “it was fun, because it was sort of a little project which you could do” (male, Year 10, low, #W9) – suggesting that publishing is manageable, appealingly project-based, and provides a sense of ownership and efficacy.

The topic of production is also considered in chapter 4 with respect to using Web 2.0 for learning.

Other discussions, particularly amongst male learners, illustrate a relatively sophisticated level of technical knowledge. For example, from one male learner:

“HTM and PHP I've managed to like learn quite well so I can update my website and write other [inaudible] and stuff like that, so it's quite useful.... there's just loads of things you can do, like make your own skins for your web page and add little modules and applications and little games that you access and make it personal to you.... you just like add a feed from the – when you go onto a website and you usually have a link to their RSS group and you like click on that and like a (VG) window comes up and you put it into VG and then it like feeds in, so you can like get tons of feeds in and the software recognises which ones you read most and it can put articles up for you and things like that.”

Another male peer in the same group explained to a less well informed peer:

“Cache is when you open up a website and it saves it in a little folder in your computer so when you go on it again then it can just upload it from the folder not from the website so it's easier to load. Okay?”

(Year 10 high #N9)

There were also examples of learners whose hobbies and interests had engaged them in more sophisticated discussions:

“Teen17 which is a, it's sort of like a, it's a company off EA Games and you can like discuss like the games on there and what you've found in the games, like glitches and errors and bugs and stuff like that and the EA Action Team send out, email these patches, just sort them out, all out.”

(Male, Year 8 mid-to-high #N15)

“Another thing that the internet's really useful for is, say, if you want to share different like deviant art and new bands, the art and animation sites, they're really good at like if you want to share artwork or flash animations or whatever and then rate each other's, then websites like that are really good rather than just like having – this is my – it's just on a global scale, people comparing each other's. Also on New Grounds, which is a Flash site and music site, which people make their own music, I've got a few animations on New Grounds and you can rate people's out of five and then depending on what score they get – depending on what score you get, and you can get deleted off the site to get rid of your score, so it's sort of a way of keeping track what other people, so of yours, which is quite nice.”

(Male, Year 10 #N9)

Chapter 4 - Web 2.0 engagement with learning

The evidence discussed so far indicates that the majority of learners who took part in this study have access to and use Web 2.0 technologies. The types of activity evidenced suggests that of the categories of user identified from the literature, there are Readers, Gamers, File-sharers, Communicators and Newscasters (in the sense of sharing experience through social networking sites) amongst the learners who participated in this study. However, when it comes to the more sophisticated Web 2.0 activities, relatively few learners are producers or publishers of self-created content for wider consumption using Web 2.0. In this chapter the focus narrows from this more general consideration of Web 2.0 activities to explore the way that learners use Web 2.0 technology specifically to support learning.

Attitudes to and perceptions of Web2.0 by young people

The view from the research literature

There is a growing body of commentary on the role of young people and their interactions in a digital world. Tapscott (1999) speaks of a 'net generation', Buckingham et al. (2006) refer to the 'digital generation', Prensky (2001) to 'digital natives', and Negroponte (1996) to the concept of 'being digital'.

However, it is perhaps not so much a question of young people doing things differently as the need for an increasingly digital society to see things differently – as young people transfer their social activities to the online world and use them to participate in social interactions in and across both real and virtual contexts in a hybrid display of socially constructed identity formation. In reality, young people are doing what they've always done – sharing interests and making music, for example (Boyd, 2007). What is different are their changing perspectives on autonomy, authority and audience. Successive waves of commentary on the impact of new technologies have shown that it is unwise to make sweeping statements about the impact of the digital world and its participants. Owen (2003) critiques Prensky (2001), whilst others rebuke Tapscott (1999). Negroponte (1996) questions the whole idea of digital culture, whilst Gere (2002) supports it. What is needed, therefore, is a better understanding of what is really going on in the Web 2.0 world.

Debate centres around oppositions: young, old; formal, informal; capable, incapable; accessible, inaccessible. The reality of these apparent dichotomies is a blurring of boundaries between formal and informal contexts of learning and participation. There is a need to underscore the issue of quality and purpose in content consumption and content creation. While 96 per cent of online US teens (Grunwald Associates, 2007) may be participating in social networking, how are they participating? We need to identify the range and variety of uses of Web 2.0 technologies, from use for fun, to alleviate boredom as well as those 'groundbreaking' or 'pioneering' activities highlighted by recent researchers (Green and Hannon, 2007; Grunwald Associates,

2007) and we need to identify ways in which these uses of Web 2.0 technologies by young people have the potential to transform or add value in formal learning contexts.

Marchant (2007), drawing on Bourdieu, defines this process of sorting the wheat from the chaff as 'digital capital' – a means of conceptualising how things get done with new practices by identifying patterns of social or civic participation to explore notions of digital literacy and the new kinds of knowledge-building emerging through use of Web 2.0 technologies. He describes 'school literacy' as being informed by a 'particular repertoire of practices' and suggests that schools need to begin to explore pedagogies that are 'sensitive to emerging patterns of interaction' linked to purpose-driven or interest-driven groups and self-directed learning. He argues for the 'democratisation of learning' characterised by collaboration rather than hierarchical controls and dominating power structures and contexts in which learning is controlled by a community of users rather than an 'elite group'.

Others, too, offer more cautionary commentary (Bettman et al., 1995; Buckingham, 2007; Jenkins et al., 2006; Selwyn and Facer, 2007), portraying the 'new digital divide' as a knowledge gap and urging the development of knowledge-brokering and accessibility to critical digital literacy skills in the move to bridge the gap between formal and informal learning contexts with Web 2.0 tools.

Green and Hannon (2007) suggest that young people are well aware of the value of online activities for learning, whether formal or informal, ascribing their own value hierarchy to the learning potential of different activities, ranging from basic participation (passive) to file-sharing and remixing-type activities (hybrid consuming/production) and on through to cutting-edge activities, largely based around the production of online content for others (highly active and contributory) and the negotiation of complex online contexts (such as multi-player role-play in gaming communities). Grunwald (2007) suggest that there is evidence that young people are aware of the dangers posed by online communication and networking but that they are also adept at self-regulating their online encounters. 50 per cent of young people use social networking as a place to discuss educational issues and homework (Grunwald Associates, 2007), although this is not necessarily effected in a school-directed or even school-facilitated way (Perkins, 2007). In terms of media literacy practices, young people do not regard the 'cut and paste' culture as 'cheating' but nevertheless consider themselves to be shrewd critics as to what constitutes worthwhile content (Grunwald Associates, 2007). Learners report that school use of the internet is "over-regulated, slow, and clunky" and demonstrate an awareness of the 'digital disconnect' between their in-school and out-of-school experiences of Web 2.0 technology use (Selwyn, 2006b).

Both Green and Hannon (2007) and Grunwald (2007) put forward a set of 21st-century skills which they see as being facilitated through effective use of Web 2.0

technologies by young people: creativity, ideas generation, presentation, leadership, team-building, confidence, communication, innovation, initiative, criticality in information gathering and the ability to evaluate, question and prioritise information.

Green and Hannon (2007) suggest that in order to profit from teens' use of digital technologies in informal contexts, consideration must be given to the generation of a 'third space' which bridges formal and informal contexts, incorporating notions around the provision of a creative portfolio (learners have full control, provide ownership, enable management of how it is constructed and viewed); digital equity (equality of access to digital resources and the knowledge areas they provide); users as designers (upping the value of 'student voice' and co-opting learners as experts in the design process); information literacy (moving assessment practices away from memory/recall to criticality, synthesis and analysis); reverse IT (teachers as facilitators/guides promoting peer-to-peer learning); and the use of a 'cool tools' monitor (taking advantage of young people's knowledge of technologies as expert users). Examples of such a 'third space' are to be found in learners' use of Web 2.0 technologies such as blogging, podcasting, wikis, and social networking tools like Facebook and MySpace. The key ingredients are 'content management systems' and digital collaboration spaces which are open and participatory and which are not managed in a hierarchical way as are more traditional digital learning environments, which can act as repositories or distribution centres for teacher and institution-generated content rather than learner generated content. In effect, then, what is suggested by Web 2.0 technologies is the need for a learner-managed content space alongside the provision of critical media literacy skills and recognition of distributed expertise in digital skills management between teacher, learner, institution and other external 'experts'. E-safety is, of course, a critical element, particularly at school level, and this would need to be built into the development of learners' critical understanding of digital technologies and their use in more formal learning contexts as well as into the design of software solutions for collaborative, distributed learning spaces.

The current reality, however, is that young people's use of technology in school is limited and constrained by a variety of issues (Selwyn, 2006b) ranging from regulation (filtering, surveillance, control, checks, use policies, gate-keeping activity) as well as temporal constraints (timetabling), spatial constraints (lack of 'open' access), technical ones (hardware quality, multi-user reduction in connectivity speeds, system bottlenecks, outdated software) and personal effectiveness (lack of criticality, low information literacy skills).

The skills identified by researchers such as Green and Hannon (2007) and Grunwald (2007) include: creativity, ideas generation, presentation, leadership, team-building, confidence, communication, innovation, initiative, criticality in information gathering and the ability to evaluate, question and prioritise information. These are all sound learning skills that are not particular to any form of technology, so what might the role

of Web 2.0 be in supporting learners' mastery? Calls for a 'third space' that bridges formal and informal contexts, where learners have full control, digital equity, are active in the design process and are assessed on the basis of their criticality, synthesis and analysis are attractive, but mean that we need to understand what learners (teachers and parents) bring to this enterprise and what support they would need to make it effective. It is suggested that learners' use of Web 2.0 technologies provides examples of such a 'third space', but to what extent is this, a learning space?

From the literature we are offered a picture of young people taking their social activities to the online world, participating in social interactions in and across both real and virtual contexts, and socially constructing digital identities. It is suggested that learners are taking a fresh perspectives on autonomy, authority and audience, although we are cautioned against make sweeping statements about the impact of the digital world and its participants. A blurring of boundaries between formal and informal learning contexts is suggested and the need to understand what young people are doing online is highlighted. Are learners really taking part in "groundbreaking" or "pioneering" (Green and Hannon, 2007; Grunwald Associates, 2007), or are they merely using the tools to socialise and to alleviate boredom? What is the "digital capital" Marchant (2007), what new kinds of knowledge-building activities are emerging through use of Web 2.0 technologies? How could pedagogies adapt to the emerging activities of young learners and what are the critical digital literacy skills that need to be engendered?

The view from the data

The national sample and Web 2.0 schools were both asked to suggest up to three sites they liked using for work in order of preference; 1556 responded to this question. The top 15 sites that students liked to use for work are given in Table 4 Wikipedia was the most frequently mentioned site, followed by BBC's Bitesize. There were some notable differences in overall choice, mainly due to some of the sites being promoted by specific schools and not others. For example, gr8ict.com was almost exclusively used by #N10 (31 per cent of the students there used this as their primary site for work⁵). The use of the BBC Bitesize website was common across all schools, but even this varied considerably by 31 per cent and 2 per cent between schools as primary choice.

⁵ Gr8ict.com is run by the ICT teacher at N10

Site	National Schools sample (percentage)	Web 2.0 Sample (percentage)
Wikipedia	58.0	56.9
BBC/Bitesize	24.0	28.8
BBC	17.8	15.9
Google	12.3	18.4
Mymaths.co.uk	9.5	5.2
Ask.com	4.9	3.7
Sam Learning	4.2	5.1
School learning platform	4.4	12.7
gr8ict.com	3.4	0.0
School Website	3.3	6.9
langagesonline.org.uk	2.8	0.0
Wiki	2.5	4.1
Linguascope.com	2.5	1.9
YouTube	1.6	0.9
Yahoo	1.3	1.7
Gen. Search	1.2	1.2
BBC/CBBC	1.2	0.6

Table 43: Students' favourite sites for use with homework in order of preference, and percentage using site as their primary choice (N=1556)

Apart from the use of the BBC Bitesize website, Wikipedia and search engines like Google, use of specific sites is restricted to individual schools, suggesting that certain sites are being promoted by teachers or peers.

Types of site used for work

Rather than look at specific sites, it is more telling to look at the types of site being accessed by students (Table 4), although the caveat still applies that certain sites being used heavily by particular schools can bias the results.

Site	National Survey school (percentage)	Web 2.0 School (percentage)
Wiki Encyclopedias	58.0	56.9
Educational - general	29.2	35.8
Media (eg BBC, ITV, Channel 4)	18.2	16.1
Search engine	15.0	21.7

Mathematics sites	11.2	6.6
Specialised search (use of searches for human answers, eg Yahoo answers)	5.8	4.5
Language sites	5.4	2.2
School's learning platform	5.0	15.0
School's website	3.3	6.9
Wikis (excluding Wikipedia)	2.6	4.1
Image search	2.3	1.9
Language translation tools	2.3	0.9
Video Media (eg YouTube)	1.7	0.9
History sites	1.4	1.1
Social network sites	1.2	2.1
General entertainment	1.0	0.6
Instant messaging	1.0	1.9
Online dictionaries	1.0	0.2
Curricular information	0.7	0.2
Non-educational sites used educationally (stated by student)	0.7	0.2
Email	0.5	1.5

Table 4: Students' preference for types of sites for helping with homework. Shaded cells are significantly different at the $p=0.05$ level from the national sample.

The high levels of use of Wikipedia emphasise the need for teaching to include understanding of information and its accuracy, and that Wikipedia being publicly editable leaves it subject to abuse and misinformation. Comments from learners are that the educational sites they use are recommendations from teachers. This implies that learners are generally reliant on teachers' recommendations and do not search for educational resources themselves. The frequency with which these sites are used, however, could affect their page ranking so that they are the primary sites presented when searched for, and also may reflect their systematic use by some teachers with their learners for homework.

Importantly, learners were asked to exclude search engines from their list of sites as researchers assumed that these were widely used, though some learners clearly entered these anyway (or were perhaps, as in the case of Google, referring to applications other than the search engine available at that website). Based upon experiences administering the survey, the positions of Search Google (3) and Ask.com (10) are likely underestimates of their popularity.

The remaining sites covered curriculum topics and more specific subjects (see Table 5).

	Total (N=1547)	National Sample (n=1013)	Web 2.0 Sample (n=534)
General	31.5	29.3	35.8
Maths ⁶	9.6	11.3	6.6
ICT	3.0	4.6	0.0
Language	4.3	5.4	2.2
History	1.3	1.4	1.1
Translation	1.8	2.3	0.9
Image		2.3	1.9
Search/Art	2.1		
Online Dictionary	0.7	1.0	0.2
Drugs	0.1	0.1	0.0

Table 3: Subject matter of sites mentioned by learners

It is important to note that coding of 'type' is based on what the primary identifiable purpose of the site is. For example, a school's learning platform was identified only as a 'school learning platform' and not also given a separate code identifying it as General Educational. This was also because it was not possible to identify to what use the students were putting the resource. So if they simply stated BBC, ITV or Channel 4 this was coded as 'media' (17.5 per cent), while the more specific BBC/Bitesize was coded as General Educational.

Note: Throughout the rest of this chapter, data is derived from learner focus groups rather than the surveys, unless otherwise indicated.

Learners as producers and publishers of content

"Like there's different kind of things you can do on the internet, like creating stuff, but you do boring stuff at school."

(Male, Year 9, high user, #W10)

Perhaps one of key findings of the research was that the gap between consuming content and actually producing and publishing, seems great for most learners, even as they take steps towards creating a stable public online presence through the use of social networking sites. Discussions with learners who had engaged in some production of content, whether self-driven or prompted by their teachers, shed light on the motivations learners may hold to share their creations online – and when they would rather not.

For learners publishing content, an audience of peers – and the potential connect with them – was key. The ability to use a web space to connect with peers was a

⁶ Use of specific subject sites particularly for maths is very individual to schools; for example, MyMaths was used by 31 per cent of the pupils from a single school but students in other schools generally did not use this.

primary benefit perceived by learners in this sample who had experienced publishing. Some of the learners at #W9 were required to create a survey on their web page and collect data from this. Beyond learning the skills to create and publish a survey, the social connection was compelling for the Year 10 low-use group: "It's kind of a good way to get to know people as well, it's kind of like a good way to make friends because you make friends with people you have things in common with and if they like agree with you then you can share it with each other, talk about it and stuff." (Male, Year 10, low, #W9) Three of these learners reported having met new people through their websites.

For some of these learners, this presented an opportunity to challenge peers to think about ideas they felt strongly about. In one group, learners took their surveys quite seriously, deleting respondents who were "just doing it for a joke and just trying to muck up your results" (female, Year 10, low, #W9). In one group, learners went beyond the survey to create discussion boards or blogs. Learners valued the space to present information that they deemed valuable, such as football match results, and present topics for debate that they felt to be important, as in the example below.

"And so it's like that's quite a good thing to share your opinion on and I've put a page on like, well, there's not actually that much on fox hunting, there's a little bit like about controlling the rabbit population and then there's about badgers, because that's been quite, you know, high up in the publicity recently, that's because they were having a, well, possibly having a cull to reduce numbers. So I've put like my opinions and some facts on there to inform people."

(Female, Year 10, low, #W9)

This is quite a sophisticated use of blogging as it is practised in the wider online community: selecting a timely topic, providing both factual information and personal opinions, and enabling readers to comment. It should be contrasted with the more personal, 'diarist' perceptions of blogging that other participants held. The type of material that is being published is therefore also of significance in determining whether a learner perceives the exercise to have utility:

"I don't really get making a blog... and in MySpace, you can put stuff about yourself and people comment, but blogs, some people make a blog, put it on the internet and then don't tell anyone about it and just change it and no one knows... What's the point in making a blog? Like, you know, when you make – not MySpace – where you have friends – you have it for random people. What's the point in having a blog and telling some random person you've never met about your trip to the chip shop, and stuff like that... If it's someone that you know, then I understand, because you might want to tell them but, if they're someone you've never met before, why bother?"

(Female, Year 8, high, #W2)

For this learner, embedding Web 2.0 activities within a pre-existing network of relationships on MySpace provides impetus to publish narrative information about her life. Blogs appear to be distinct from the interactive online exchange she sees as characteristic of social networking sites. The issue of the utility of published information for the unknown reader is also questioned, though her fellow participants counter this assertion with potential benefits for the reader.

Likewise, one learner reported “taking videos of when you’re at school and stuff and then tak[ing] them home and put[ting] them on like Bebo or YouTube and stuff” (female, Year 10, high, #N5). For this learner, this material is appropriate to the shared social context on Bebo and perhaps even of interest to an audience with wider access, via YouTube. Another learner at the same national sample school indicated that she began publishing videos after “I brought [my camera] into school and none of the teachers really seemed to mind, so I’m able to film on it and I put some videos up on YouTube” (female, Year 8, unknown use, #N5). Later conversation appears to clarify that these videos were not created for educational purposes with the sanction of the teacher, as they had to be taken down “because she didn’t want our form room being seen on the internet”. A male learner at another school also reported uploaded videos he created to YouTube. Finally, a learner at one national sample school reported that he and a group of friends were trying to upload their created videos to YouTube but had only succeeded in publishing to Bebo thus far.

For some participants, the type of material one expects to publish is not perceived to be compelling. On the other hand, substantive discourse might be desired to be kept private, even amongst high Web2.0 users:

Female 1: On Bebo there’s a blog. I keep a diary. But I think a diary’s very personal to yourself and I wouldn’t put it on the internet. I really wouldn’t because it’s so personal to me.

Female 3: You wouldn’t want everybody to know who you fancy.

Female 2: No.

(Females, Year 10, high users, #N9)

One of the only learners in the sample to keep a blog noted that she does not expect other people to read it, as she keeps it private. Here, the learners are aware of their access to blogs and potential uses for this tool, but opt out of publishing information in this way because it would leave personal thoughts exposed. This sentiment is echoed by her peers. There is thus a tension between feeling that one should publish compelling information if one is to publish anything at all, and desiring to keep certain aspects of one’s life private. This tension is informed, in part, by preconceptions about the potential applications of Web 2.0 tools – and as shown

above, some learners have more sophisticated understandings of these than do others.

Furthermore, results indicate that learners may lack the technical knowledge to engage in publication, suggesting a role for teachers to support the development of confidence and technical skill in using Web 2.0. This lack of knowledge may be because learners lack the actual skills needed to publish content online, whether due to lack of formal instruction or experience, or having forgotten learned skills. This suggests a role for teachers to train and scaffold such activities.

The skills involved in publishing one's own work may be reviewed in lessons, but learners had difficulty absorbing this information for later use. For some year groups at #W9, web page creation has been worked into a lesson, but even those learners not exposed to formal instruction may access and edit their web page. Yet learners were not always able to take up this opportunity: importantly, opportunities that are introduced are not always followed up. This may be because learners are not formally instructed in how to access platforms to publish: "It [school webpage] was accessible, but we didn't get told how to do it and that" (male, Year 10, low, #W9). Alternatively, learners may feel they lack the skills needed to publish work: one student (male, Year 10, low, #W9) who would be interested in publishing his artwork said,

"...it's just I don't really know how to, if you know what I'm saying. It's kind of like they've taught us how to do it, but it's not really a lot of detail. They kind of like show you how to do it, but it's a bit complex like copying it and saving it and whatever."

It is also unclear as to how efficiently skills information about publication, as opposed to consumption or circumvention, is spread informally through peer networks. Participants at #W9 reported that some learners had managed to upload music, pictures and games to their home pages, but they had had only one lesson on how to upload music and did not remember how to do this.

Alternatively, learners may be unaware of the potential applications to which particular tools are especially suited, as in the blogging example above. Prior experience with more user-friendly social networking technologies may interfere with their ability to question how tools may be used to suit their purpose, which again relates back to questions of utility to the self and important others.

The awareness of a 'better way' may also make learners more critical of how school-run systems operate. Data suggests that for high users of Web 2.0 technologies, school-initiated publishing may compete with, and sometimes lose out to, the appeals of more popular Web 2.0 tools. Participants at #W11 found the process of making a website "quite boring" (female, Year 10, low user). The skills involved in producing a website were perceived as more relevant for employment than as interesting to work with in the immediate term. One participant (female, Year 10, low

user) felt that “with all the forums, nowadays, you can just add to it, instead of making your own site.” Pre-existing online infrastructure enables her to accomplish her goals, without needing to learn the additional skills gained through producing one’s own website. Likewise, Year 10 high-using learners at #W9 found their school’s personalised home pages somewhat hard to navigate and believed it to be little-used because it requires the user to search for a person’s full name in the user directory, compared to Bebo’s system of links.

However, some learners valued a 'walled-garden' approach to publication. Learners’ personalised web pages at #W9 are not visible outside the #W9 system. The opportunity to experiment with publication in a protected environment (but with social networking still in play) proved attractive to one user: “It’s sort of a good way of learning, or doing, learning how to do it in a safe way before you go and do it out of school where there’s a lot more dangers and that (male, Year 10, low, #W9). The desire for a safe online space was verbalised by Year 10 low-use learners at #W9 as incorporating a “trust element” (female) – making sure that peers “know their boundaries” of appropriate conduct.

For other learners, issues such as lack of time and interest play a role in deciding not to publish content. One learner notes that he would only do so in order to back up files.

The intellectual property issues of publishing one’s work were noted by learners at three national sample schools, of which two were single-sex. Learners feared plagiarism by others if their work were to be posted either on the intra- or internet as they felt they needed to be able to trust those viewing the content: “Well, if you trusted the people that were looking at it, maybe, but not like anyone could see it kind of” (female, Year 10, low, #N1). They also felt reluctant to have others judge the quality of their work: “If it wasn’t very good then I’d hate it” (female, Year 10, low, #N4).

Working with new literacies: learners as traders, learners as designers

The internet allows ease of communication through visual, audio and multimedia formats, as well as traditional text-based literacies. Learners’ use of picture-sharing sites and their production of visual content for social networking sites shows how this hunger for new literacies may manifest, and indicates the boundaries some learners draw around them.

Image-sharing websites such as Flickr and image search services such as Google Images were singled out as of particular value by six learners, though this is probably an underestimation of their use. “I use Google to research information, such as pictures for art...” (Male, Year 10, unknown use, #N6) The opportunity to learn using non-traditional literacies appeared to be valued by a small number of learners. “I think that [unintelligible] read and print out and stuff should be made more visual,

or more interactive, online, like movies, or something you can watch. Instead of reading about an experiment, you've seen it as well." (Female, Year 10, low) Some learners felt that the internet can be less text-heavy than books, and their experience of this may inform their decision about what resources are useful to them:

"something that isn't just loads of writing because then that would really bore you" (female, Year 8, unknown use, #N15).

Survey results indicate that the most common product being uploaded and published on social networking sites by learners are photographs; this was corroborated in the focus groups as at least fifteen focus group participants report sharing photographs using these sites, though this is probably an underestimation as the specific ways in which learners created content for social networking sites was not always probed, and participants reported that uploading and sharing photographs was common practice amongst their friends. It appears that most photographs are of the user and/or their friends; however, one learner noted that he distorted his profile picture to protect his privacy, and another that he used photographs of television figures for his profile.

Learners tended to characterise their photographs in a general way: for example, "You can put pictures and stuff on." (Female, Year 8, high, #W2) One learner reported that "I usually copy other people, whatever they do. If friends have pictures of just their face up, then I'll do that." (Female, Year 8, unknown usage, #W11) The social rules governing when it is appropriate to look through the full extent of an online friend's photos was also touched upon – it was felt that if you did not know your friend that well, "it's a bit weird" (female, Year 10, high, #N9). Conversations centred more towards the sheer volume of photographs which can be published on these sites, which gives a sense of how engaging this form of communication is for learners. They described the benefits of using social networking sites to capture and publish shared social experiences: "Like I was at a party but I didn't bring my camera, then I could go and look at the pictures if someone else has been at the party... You get a couple that may be nice, whatever, or they have 50 or whatever. But if it's an occasion then yes, it's nice to look at photos" (female, Year 10, high, #N9). Said another, "Some of my friends are obsessed with Bebo pictures and they're like, oh my god, what shall we do now, take Bebo pictures" (female, Year 10, high, #N9). Sharing photographs appears to therefore be a significant and compelling part of the social networking experience for these learners.

The types of photographs that learners post on these sites may be of concern to parents, teachers and other adults responsible for young people's welfare. The question of how explicit a young person's online presence may be unsurprisingly proved a difficult one to broach consistently in focus groups: it may be difficult for young people to admit to their own (or their friends') publication of provocative or explicit material, and they may not hold the same standards of what is explicit as do

adults. The issue was only able to be overtly addressed in one focus group (Year 10, high, #W9):

Researcher: How about the sort of photos and things that people put on these sites? Like sometimes you hear someone's got –

Female: Untasteful ones going on there.

Researcher: Yes? Does that happen quite a bit here?

Female: Quite a few people do, yes.

Male: Yes.

Female: Yes, I know a few people with revealing pictures on their Bebo... I think the police have started telling some of them to take them off though. Because my friend... she got told by the police to take it off.

Researcher: Yes? And do guys do that as well..?

Female: They go topless, basically.

Male: Quite a few do, yes.

This excerpt suggests that some learners, both male and female, are publishing suggestive photographs, and that occasionally this is picked up by local authorities (it was unclear to the researcher how this photograph came to the police's attention). The absence of this type of discourse from the other focus groups indicates that this is a sensitive topic to discuss with young people and that it is therefore difficult to accurately gauge the prevalence of this practice. The findings that young people find photo-sharing a compelling way to bond with their peers also suggests that this behaviour may be embedded within the overall presentation of identity to peers (which is intended to be consumed by peers), rather than an attempt to explicitly endorse a sexualised identity – though the very limited amount of evidence available makes this a tentative interpretation.

Challenging the internet: learners as critical (or not) analysts of information

While the data shows that learners have the potential to be critical consumers of information on the internet, they are selective in applying that criticality. Learners show a generally sophisticated understanding of the unreliability of online information, and sometimes made efforts to verify the information they found. At other times, they resorted to shortcuts and poor confirmation strategies. Perhaps unsurprisingly, it emerged from participant reports in focus groups that copying and pasting information from the internet was extremely common at the schools in this sample.

Although the availability of information was praised by many learners, the vast quantities of information available were sometimes difficult to handle – much of the utility of search engines depended upon “if you get the right site” (male, Year 10, high, #N9). Said one learner, “I find Google really confusing though because you type in one thing and a thousand things which I’m not looking for come up as well, it’s half aren’t related I don’t think” (female, Year 10, high, #N9). Another learner noted that Flickr “isn’t very good because it’s all photographs that people have taken so you don’t always get what you want” (male, Year 10, unknown use, #W11). Thus whilst the ability to find a wide range of information was valued, the volume of results obtained from learners’ search strategies posed difficulties for some learners.

Learners dealt with issues of information quality and reliability in various ways. Three learners used poor strategies, such as “writ[ing] down the one that I hope’s the right one” (female, Year 8, high, #W9) when faced with conflicting information, or using the first site. However, about four learners reported utilising more sophisticated strategies to determine whether information on the internet was reliable. These strategies included examining the description of the link; looking for official websites; using sites recommended by schools; and counting the number of key words hit. How these strategies were developed or acquired was not followed up.

Nineteen learners reported knowing someone who had copied and pasted information from the internet, whilst two learners admitted to having done this (researchers did not generally ask learners whether they had engaged in this practice themselves). Learners at two schools reported believing this was common practice at their school.

The motivations for copying and pasting reported by learners most commonly had to do with feeling pressure from the length of assignments whilst not being engaged with the task, and in the absence of perceived-credible checks: “When you’ve got stacks and stacks of homework and somebody decides to give you a pointless question, just for the sake of giving you homework, I think it’s the only option you have actually. And sometimes you’re trying to do it and they say ‘We have websites that will know if the words are the same’ but you can just change one word and they wouldn’t be able to recognise it” (male, Year 10, unknown use, #W3).

Two learners reported having been tempted to copy essays whilst routinely researching on the internet: “I found myself on a website like that. I was looking for a synopsis of this book that I’ve read and then it came up with this essay for the coursework that I was about to do. And it was tempting, but I knew it was wrong, so I didn’t in the end” (male, Year 10, unknown use, #W3)

Some learners debated whether or not copying and pasting could result in learning, with an almost even split between those who thought they learned from reading through the material and changing words, and others who did not think they received any educational benefit. Interestingly, at one school, pupils reported that learners in

lower sets were sometimes instructed to simply print off information from the internet whilst higher sets were asked to do this and put the information into their own words.

Social networking sites: creating a personal space online for learning

Here, we consider learners' motivations to use social networking sites for learning. The ability to design one's own space on the internet was noted as motivating by two learners. As regards social networking specifically, there was only a small amount of evidence to suggest that learners were using the comment functions of social networking sites to directly support learning: one learner noted that he and his friends would comment on the videos they uploaded. This lack of activity may be related to the asynchronous nature of the activity, as the following extract suggests:

Male: But they might not always go online. They might go on the next night. You don't know how often they're going to go online.

Male: You see that they're online, when you go on. You just leave them a message and they'll write you back.

Male: Those messages aren't normally to do with homework, really.

(Year 10, mixed usage, #W11)

The lack of synchronous communication means that social networking sites may not be the ideal arena through which to conduct collaborative learning. Additionally, some learners viewed the online social space as an important respite from school, as this excerpt about instant messaging shows: "Whenever I go on MSN it's mainly so I can talk to my friends, get ourselves away from the school aspect and like my homework aspect" (female, Year 10, low, #N1). Interestingly, when asked about bringing social networking into school for learning, learners generally continued to envisage the tool being used for socialisation, unless further prompted by the researcher. They therefore tended to frame the issue as one of whether free time should be given to use the technologies, how much time, and whether this would be disruptive. This excerpt shows how keenly the divisions may be drawn between home and school, and how social networking may still be situated firmly within social sphere: "As much as I like them, they shouldn't be doing in school...Because what's the point of coming to school? You come to school to learn and then when you go back home, that's the time to do it" (male, Year 10, low, #N4).

Of course, individuals other than learners may coalesce around social networking sites: some teachers have a presence in this arena as well. Some information was collected about learners' attitudes towards teachers' use of social networking sites at one school where it is known that some teachers have accounts on these sites. The learners interviewed were generally indifferent to their teachers' presence on these sites. The ability to manage one's exposure to teachers mattered: "It would be weird

if they could look at your profile...” (female, Year 10, high, #W10). Learners valued the opportunity to access teachers’ assistance through leaving comments, because it was “quicker” (male, Year 10, high, #W10) and “easier to talk in writing than in person” (female, Year 10, high, #W10). The appeal of having teachers on social networking sites, then, is to expand opportunities for learning in times and arenas convenient to the learner, rather than develop social relationships with the teachers in question.

When learners prefer to learn using the net

Most learners expressed a preference for using the internet to support learning. Amongst the motivations they revealed were the ease and speed with which information could be accessed; the sheer availability of information; and, less commonly, the opportunity to work within different literacies. Contrasts with the way the internet works to find information and the learners’ experiences using books were also made by some participants.

Search engines were reported by participants to be their primary way of using the internet to support formal learning. Wikipedia was also a popular resource. Revision sites were mentioned as useful by approximately twenty participants, though it was noted that these were generally appropriate for science, English, and foreign languages. About 2/3 of learners who reported using revision sites came from national sample schools. Using the internet to access work, either through the learning platform or school-sanctioned sites such as MyMaths was popular in one Web 2.0-innovating school and three national schools. Translation sites were used by at least three learners, and one learner mentioned that her sibling used a specialist website to support dyslexia. However the sophistication of use of translation sites was not high as the example from this somewhat undiscerning learner suggests:

“Like the online translator for French – because I’m not very good at French I always like sort of cheat at it, and Miss ends up finding out because I’ve spelt the wrong words and everything.”

(Female, Year 8, mixed)

The sheer availability of information on the internet was a key motivation expressed by learners for using this to support their learning, particularly as related to their use of search engines. “It’s got everything on there, because you can find anything” (female, Year 8, high, #W2). “I never use books for homework, ever. I think the internet is just like an endless source of information” (male, Year 10, unknown use, #W3).

The ease of using the internet to obtain information was also noted: “It’s so easy because it’s all there in front of you and you don’t, you can just sort of you know pick and choose what you want to do” (female, Year 10, high, #N5). This not only

included perceived ease of access in contrast to searching through a book, as indicated by the availability of information, but ease of manipulating found information: "In some ways it's good for people, who do have the internet, and they don't have to write it down all the time and the plan, whatever" (male, Year 10, low, #W2). Search engines were noted by one learner as being particularly easy to access because "you can just do a search and you don't have to log on for anything, that other people are using, and it's not interactive because you just get information" (female, Year 8, high, #W2). The speed with which information can be found using the internet was deemed important by some learners, as it was felt that the internet cut out a "mass of reading" (male, Year 10, unknown use, #W11). That this information was available, on-demand and personalised to the user, was not unnoticed by learners: "It's when you want it. You don't have to wait for sports news, or on TV, or something. You know what type of news you want – like my football club" (male, Year 10, unknown use, #N6).

Whilst most learners were enthusiastic about using the internet for learning, this was not true across the board: some individual learners preferred to use other tools for learning, and some learners chose their tools with regard to situational constraints. Sometimes, a preference for using the internet had less to do with the internet itself, and more with attitudes to learning. Whilst more general reasons for non-use of the internet, and Web 2.0 in particular, to support learning are explored elsewhere, learners expressed preferences for using books in certain specific circumstances. One learner said he would only go on internet revision sites if he did not have any relevant books at home, whilst another found dictionaries preferable to translate sites because it enabled maintenance of proper grammatical structure.

Preference for using the internet may be related, for some learners, to learners' perceptions of themselves by others:

Female 1: It's easier as well. You don't really want to be seen walking into the library, so it's easier to do it on your laptop.

Female 2: When you're like 15 and you go into a library, people automatically think that you're up to something dodgy, because that's the stereotype of teenagers. But on the internet you don't need to say what name you are, what age you are, to go onto various sites, so you don't get judged.

(Year 10, high, #W9)

For these learners, how others view them influences their decision to use the internet to support learning, rather than to access books in a public arena. For female 1, this appears to have more to do with her peers' perceptions of her, whilst for female 2 this may be related to wider concerns about how society views her as a teenager. The following excerpt shows how for some learners who engage in private inquiry, the decision to do this must be prefaced by a self-effacing belief that this is not a

typical thing to do: "Sometimes I go on, it's quite sad, but if somebody says something at school and you want to know what it means... I look it up... and I see what it means" (female, Year 8, unknown use, #N8).

Working online together: collaboration or coordination?

The internet, and particularly Web 2.0 technologies, offer unprecedented opportunities to work collaboratively, given the right situation, attitude and skill. Yet though a few learners reported engaging in genuinely collaborative learning using Web 2.0 technologies, most learners reported that they did not do so, or interpreted working collaboratively (often phrased in interview as "working together online") to mean using Web 2.0 technologies to support fairly superficial conversations about work, or working together at one computer.

At least two dozen learners reported using Web 2.0 tools to support "chat" about work. Examples include using instant messaging to ask what homework questions were set, exchange answers, or check deadlines; explaining task requirements to absent peers; and coordinating work to avoid duplication.

More genuinely collaborative examples of learning were rarer, and only reported by nine learners, six of whom were from Web 2.0 -innovating schools. Half of the examples reported appeared to have been instigated by teachers. Examples included using the internet to communicate with a friend at another school about an unclear concept; commenting about a video on a Bebo page; "swap[ping] ideas on homework" through instant messaging (female, Year 7, low, #W3); and – prompted by a teacher – uploading work to send to another person for commentary (male, Year 10, low, #W9). One learner reported sending email attachments to groups to bring content together, but did not elaborate upon how collaboratively this was done. Collaborative assessment with teachers was reported by two learners, as work was submitted, returned with comments, and the learner had the opportunity to incorporate the comments prior to final deadlines. Finally, learners at one school spoke about using blogs to brainstorm ideas for video conferences, which they found useful and interesting but not compelling compared to social uses of Web 2.0 technologies:

Male 1: I think in that sense, using it with a teacher in class, I think that, I think it's really useful for us, because it's introducing us to, because technology's moving quickly and so I suppose in a way he's helping us by keeping us up to date with it.

Male 2: It's all work. It's not fun activities, because I don't think anyone finds work fun....It's useful and it helps you with your education, but like when you're at home you can still go onto it when you're talking at home. I would rather go on MSN than go onto that.

(Year 10, unknown use, #W3)

For these learners, the benefits of using Web 2.0 were perceived to be in using technology innovatively. This was enjoyable but still situated firmly within the context of education.

About ten learners indicated that they would not use the internet to work with others. Learners at another school noted that they wouldn't generally have the opportunity to work collaboratively because "we don't really have to go into groups" (female, Year 10, low, #N4). Some learners were able to articulate why they preferred not to engage in more substantive collaborations using Web 2.0 technologies: "I prefer to do it face to face or on the telephone, because online like as well if it's maths you can't write like on type the like all the little squiggly things, like the formulas and all that, you have to write it all out and if it's all divided by 2 you can't just draw the line and 2 and stuff" (female, Year 10, high, #W9). In one group (Year 8, high, #W9), collaborative working itself was disliked because "you get more done because you don't like talk" (female) and "just your opinion's going to go forward instead of having to try, one person doesn't like it and you like another thing" (male). For these learners, it was felt that learning on one's own prevented distraction and resolved the apparently problematic issue of negotiation.

One learner articulated a tension that was discussed in many interviews with teachers: the conflict between collaborative learning and the sometimes-restrictive assessment procedures learners may be subject to:

"I've done it only as when it's doubles work, like only as a pair, because you can get told off if you've got work that's too much the same, like if like it's only one person, like you're supposed to do it individually, then, and you send it to someone and they use it the exact same, you're going to end up in trouble, because they could say that you copied them."

(Male, Year 10, unknown use, #W3)

This learner perceives a disincentive in using the internet to support collaborative learning, because similar outputs between peers would likely result in penalisation. The assessment system, in this learner's mind, has little room to discriminate between copying work, and generating ideas collaboratively.

Using the internet and Web 2.0 to support private research and inquiry

Web 2.0 offers the opportunity for learning that is self-directed, personalised, and compelling to the individual. The free exchange of information, a spirit of criticality and decentralised authority, and a participatory audience lends promise to the idea of creating life-long learners through the use of Web 2.0 tools. Results suggest that whilst many learners are eager to use the internet to pursue knowledge driven by their own interests, their use of Web 2.0 in this private research is again limited and very rarely ventures into publishing and production.

Learners commonly used the internet to support private research and inquiry, but this was only rarely employing Web 2.0 tools. In national sample schools, 27 learners reported using the internet to support their own research; of these, approximately four used Web 2.0 technologies. In Web 2.0 innovating schools, 32 learners reported using the internet to support informal learning; of these, nine used Web 2.0 technologies.

Of the learners who used Web 2.0 tools to support informal learning, examples included using YouTube to watch videos about a hobby; accessing other users' artwork for ideas about one's own; using eBay; downloading music; accessing and posting to forums for a hobby; using virtual world programs; contributing to a genealogical social-network website; engaging with a wiki for a Youth Congress; and researching the historical context of a game:

"I have a game and it has an encyclopaedia on it and it says all this history about the characters and stuff and I didn't think it was real, so I typed one of the names up in Wikipedia and it was all these real people which lived in like 200A.D. China or something, so I thought it was quite interesting and I just keep finding out more about that every day."

(Male, Year 10, high, #W9)

Sometimes, learners engaged in private research following assignments provided by their teachers. "I was actually going to do history and found out about the Queen of Poland and I Wikipedia'd it and spent about hour researching Jadwiga, who was the patron saint of Poland, so yes I do get sidetracked on the internet" (female, Year 10, high, #N5). One learner is taking an online language class utilising forums; she views this as less than ideal, but effective. "I'd rather have a proper teacher but I think it's the best way of doing it in this sort of situation." (Female, Year 10, low, #N1) It is difficult to discern what about this arrangement makes for lack of a 'proper teacher', however.

Another learner reported that he posted artwork and Flash animations on a website which utilised peer ratings. Finally, one learner reported that a peer researched the internet for Flash tutorials to improve his skills.

Of the non-Web 2.0 uses of the internet to support private research and inquiry, examples included keeping up to date with local sport clubs; checking cinema times; researching private hobbies such as animal rearing; researching game 'cheats'; shopping online; checking opening hours for days out; looking up weather reports; researching agricultural documents; finding guitar tabs; looking up words in online dictionaries; researching Victorian dress; learning about hyperlinks; using price-comparison websites, including reading but not contributing to user feedback; and researching holidays.

Some learners believed that their Web 2.0 use helped them develop skills that assisted them in their formal learning pursuits. Two reported that their typing skills had improved, and another two reported learning keyboard shortcuts. Another learned how to rip videos off of YouTube and convert them to another file format, which he reported learning from a friend and "I kind of figured it out myself as well" (male, Year 10, high, #W9). One reported that she created a website: "One day, I just thought, oh I'll make one. My friend told me a way so I just did it and then I just deleted it." (Female, Year 10, high, #N9)

The perceptions of schools, teachers and related stakeholders

Teachers will be considered in more detail in another report from the project; here the reader is merely alerted to the importance of this area and that recent research (Green and Hannon, 2007; Grunwald Associates, 2007) suggests that schools, driven by concerns about safety, privacy and child protection issues are adopting a heavily regulatory approach to Web 2.0 technologies and mobile communications and other handheld technologies such as iPods and MP3 players are generally unwelcome in the classroom. Further, teachers are portrayed as lacking in confidence, skills, time and authority in relation to use of Web 2.0 technologies for teaching and learning, and issues around plagiarism, copyright infringement and criticality in relation to internet use are a common concern.

Perceptions of academics

The research also portrays a newly evolving 'digital divide' characterised by the dissonance between 'technology-rich learners' and 'technology-poor schools', and the debate around differences in levels of access between young people's in-school and out-of-school use of technologies, with learners having a 'richer, more extensive engagement' with internet technologies and experiencing a more collaborative, communicative environment outside of school (Selwyn, 2006b). Others (Marchant, 2007) point to this richness of learners' out-of-school access to a wide range and variety of technologies and networks as a form of 'digital capital' offering opportunities for new kinds of knowledge-building and requiring schools to address a 'fundamental shift in power relations' in an arena where the increasing use of social networking tools by young people is leading to a blurring of boundaries in which the 'networked classroom' becomes a portal between its learners and real world experts and experiences, a vision of learning that requires a creative consideration of available learning spaces.

Chapter 5 - Learners' experiences with ICT and Web 2.0 technologies for learning in school and out of school

Web 2.0 technologies in school: the view from the research literature

The adoption of Web 2.0 technologies as a tool for teaching and learning within schools will depend on the availability of these tools during the school day and the degree to which their use can be effectively embedded in the curriculum. Given that the use of personal wireless devices is discouraged in most schools, the quantity, type and deployment of hardware in the school is a primary determinant of use. The pupil/computer ratio in schools has fallen considerably in recent years to 3.6:1 in secondary education in 2006 (Becta, 2007). However, there is considerable variation between schools. Ofsted (2005) describe the provision of infrastructure across schools as 'satisfactory', although it is noted, 'many pupils still did not have sufficient access to computers to support their learning across the curriculum on a regular basis'.

Access to computers during lesson time is a significant barrier for many teachers in subjects other than ICT. Whilst some classrooms have one or more computers, a significant amount of hardware is concentrated in 'ICT rooms' with much of the time available being timetabled for the delivery of the ICT National Curriculum Programme of Study. However, it is noted that the current focus on the development of learning platforms has led to increasing numbers of schools seeking to provide pupils with portable devices (such as laptops in schools) to ensure access to the school's learning portal throughout the school day. This growing demand is being met by educational suppliers offering low-cost, ultra portable computers. The continuation of this trend would support increased and more flexible access to Web 2.0 technologies. However, such access is hindered by financial constraints as well as by concerns about being able to monitor and control learners' use of these devices.

Deployment issues are as important as the quantity of hardware in determining levels of access. Key to this is an understanding of how pupils use computers throughout the school day. Pupils' time in school is split between 'lesson time' and 'free time'. Typically, 5 hours each day is spent in lessons being directed and supervised by teachers. Free time such as lunch times, break times and before and after school varies considerably between institutions.

Pupils' engagement with ICT during lesson time is influenced by choices made by the teacher, the curriculum and their immediate access to computers, software and online services. A range of curriculum opportunities for using ICT are identified in the National Curriculum Programme of Study for each subject. However, advice on the curriculum integration of ICT to support subject learning does not generally suggest learning opportunities that make use of Web 2.0 technologies. Published schemes of work tend to neglect such technologies, possibly because of their relatively recent

development. Moreover, relatively little is known about teachers' Web 2.0 skills, although it has long been recognised that teachers are often technically competent but may still choose not to use these skills in their teaching, either because they see little pedagogic value to using technology or else are hampered by the constraints of the curriculum or resources available to them (Cuban, 2001).

Pupil's use of computers during 'free time' in school is determined largely by physical access to hardware and by policy constraints. Most computers are based in classrooms or ICT rooms, which may be accessible to pupils when adult supervision is available. Where such access is available, Mumtaz (2001) suggests that children are frequently encouraged to undertake lesson-related activities such as completing coursework tasks. Games, social networking sites and popular, free email services are often banned by school use policies or filtered. Even though many schools have sought to increase the accessibility of hardware through the development of open access areas (for example in libraries and resource bases), constraints imposed by school policy and filtering still limit the kinds of activities that pupils are allowed to undertake.

Increasing access and improving integration of technology into the built environment of schools has been explored (Rudd, 2006) and forms part of the planning considerations for the Building Schools for the Future programme. Nonetheless, school policy and conceptions of 'appropriate use' are likely to remain as obstacles to greater use of Web 2.0 in school contexts. Where pupils are using personal wireless devices (particularly mobile phones) in school this is frequently in contravention of school rules, with some schools seeking to deploy wireless jamming systems to prevent this.

The view from the data

An estimate of the amount of time NS learners reported that they spent working on the computers for work and leisure was obtained from the guided survey (Table 6).

	Mean (Hrs/Week)	Std. Deviation
At school: doing work on a computer	2.46	2.432
Out of school: doing school work on computer	3.29	3.536
Out of school: typing/reading your email or instant messages	4.76	5.075
Out of school: Social networking sites	4.13	4.966
Out of school: Games	3.86	4.825
Out of school: General web browsing	3.60	4.106
Out of school: Other computer activities	2.64	4.093

Table 6: Estimated average time spent by learners on computer related activities at school and outside of school

From this it can be seen that learners spend, on average, more time working on school work on a computer outside school than at school itself, with 34 per cent of learners estimating that they spend only an hour each week using a computer at school.

It is clear therefore that learners experience rather little computer activity in school compared to the rich interactions they have with computers outside school, particularly with social networking and the use of email and instant messaging.

Learners as authors of digital content

Pupils are very much in favour of using PowerPoint in school, with 78 per cent thinking this is important or very important. Learners are also in favour of making videos, with 53 per cent believing it to be important in class. Displaying their work for anybody to see has a mixed reaction, with the greatest proportion of learners (38 per cent) feeling neutral about this. However, this appears to be tied to concerns about who sees it, rather than about the technology, as learners are more positive about displaying work which is only available for the school to see. Learners who have no experience of creating wikis and podcasts are, perhaps understandably, neutral about their potential to support school work, and 66 per cent feel neutral or uninterested about the prospect of using blogs. By contrast, communicative activities were felt to be important – being able to link to other schools and chat to other learners was widely believed to have value for class use.

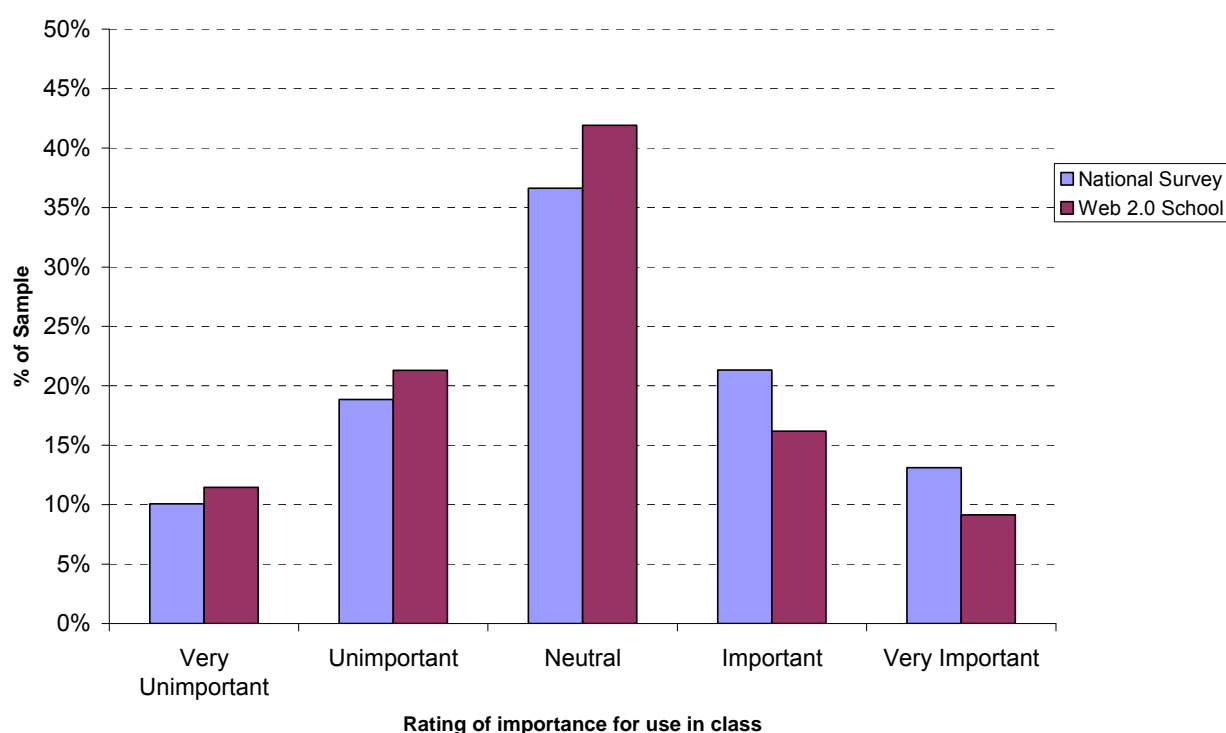


Figure 12: Comparison between learners from Web 2.0 schools and national survey sample rating of importance of building own Wiki encyclopedias

Interestingly, while learners from Web 2.0 schools generally reflect the same attitudes towards the use of these technologies as those from the national survey, there is a significant difference in opinion about the use of blogs and building wikis. While learners from Web 2.0 schools are more in favour of blogs, building wikis is

regarded as less important (Figure 12). Learners' opinions about the use of wikis were also found to be significantly correlated with their opinions about the use of podcasts, blogs and linking up with other schools, suggesting that some individuals would benefit from Web 2.0 activities generally, while others would not. It was considered whether using wikis raised learners' opinion about their use, but only two schools, both from the Web 2.0 sample (#W3 and #W7) made specific mention of using wikis. Interestingly, learners at #W3 were among those with some of the lowest opinions about their use.

The use of Web 2.0 technologies out of school: the view from the research literature

As highlighted by Professor Tim Brighouse at the first 'Next Steps seminar organised by Becta (25 September 2007), learners are only in school or college for 15 per cent of their time. And yet, comparatively little is known about the learning potential of the environment that learners encounter during the remaining 85 per cent of their time. As technology increases the possibilities for linking learners' activities and learning across multiple locations, what can be said about the potential of the environment outside the school classroom to support learning?

There is a good deal of discussion around the proposal that children's learning would be enhanced through better home and parental involvement, supported by better collaboration between families and teachers. Jim Knight, the Schools Minister, announced in January 2008 the move to 'real-time reporting', emphasising the role of technology in facilitating parental engagement with the school setting through increased online communication and interaction between home and school. The real-time reporting initiative requires the provision to parents of real-time access (including opportunities for secure online access from anywhere, at any time) to information relating to their child's progress, achievement, attendance, behaviour and special educational needs in secondary schools by 2010 and in primary schools by 2012 (DCSF, 2008a). Announcing the initiative at Bett08, Knight said:

"... if families are going to be involved in their children's education really effectively, they need a good two-way flow of information. Real time reporting will deepen the school-parent relations and is not a substitute for regular personal contact with teachers. Effective technology systems can actually significantly cut the staff workloads – but it has to be manageable for individual schools and meaningful for parents."

In a recent report on parental engagement, Harris and Goodall (2007) suggest that out-of-school contexts play an important role in raising student achievement in school, stating that: 'When schools, families and community work together to support learning, children tend to do better in school, stay in school longer and like school more.'

The keyword in both cases is 'effective' – effective home–school relationships and effective use of technology. A supporting initiative which seeks to place technology in low-income homes is also being explored through the Home Access to Technology programme (DCSF, 2008b).

The debate around the home–school relationship and the effectiveness of parental engagement can be seen in earlier research about the nature of the activities that are used in order to try and promote learning outside of school. Projects that have tried to support parental involvement in the UK have on occasions been found to lead to situations where families feel marginalised (Dyson and Robson, 1999) and even that there is attempted 'colonisation' of the home by the school (Edwards and Warin, 1999). To take a more positive perspective, there is evidence that information and involvement from families could do much to ease the transition from one sector of the education system to another (Osborn, McNess and Pollard, 2006) and that, when appropriately designed, activities that intend to support the exchange of knowledge between home and school can prove effective in supporting home–school communication (Hughes and Greenhough, 2006). These authors also draw attention to one of the tensions in the nature of communications between school and home: the direction of that communication. Most home–school communication takes place in the school-to-home direction rather than the home-to-school, a point also taken up by the Schools Minister, Jim Knight who, emphasising the "two-way flow of information" needed in respect to the real-time reporting initiative, also indicates that in order for parents to be fully involved in their children's learning, there must be greater opportunity for parents to 'feed back' to schools – with the suggestion that this could be done using mobile phone, the internet, even video conferencing. Analysis of successful home–school knowledge exchange emphasises the complex nature of this communicative activity and the need for "processes of representation and representation on all sides" (ibid).

The appetite for wanting to help children gain greater benefits from learning outside school and in the home is, of course, not limited to politicians and academics. Parents themselves are keen to get involved. This is seen very clearly in the rise in private tutoring in the UK. The ESRC-funded project 'Mapping and Evaluating Shadow Education' conducted a survey of 3615 pupils in Years 6, 11 and 13, from a total of 65 state maintained primary and secondary schools and colleges. This revealed that 27 per cent of pupils had at some point during their schooling received private tutoring. In Year 13 this figure was 29.5 per cent and in Years 6 and 11 it was 26 per cent. Examining the link between home tutoring and student attainment, there is no consensus of opinion about effectiveness. Ireson and Rushforth (2005) evaluated achievement data from 296 Year 11 learners who took their GCSEs in 2003 and found that tutoring in mathematics raised student achievement by half a GCSE grade. However, the number of learners in this cohort was small (48) and the figures for a similar study with English with an even smaller data set (20) demonstrated a negligible effect of tutoring. Results from other studies are variable

and leave us with questions about the effectiveness of tutoring (Ireson, 2004; Ireson and Rushforth, 2005).

Work that has explored the use of technology in learning at home and in linking home and school shows, once again, a combination of enthusiasm and concern. When parents ask their children about what happened at school, the resulting conversations are frequently unsatisfactory, at least from the adults' point of view. Such a dialogue provides little support to a parent trying to understand his or her child's learning or become more involved in this. Furthermore, parents can feel that opportunities to come together with teachers to build a shared understanding of a child's learning experience are limited and unsatisfactory (Luckin, du Boulay, Smith, Underwood, Fitzpatrick, Holmberg, Kerawalla, Tunley, Brewster and Pearce, 2006). Many parents report that they feel ill-informed about how best to support their children's formal education (Kerawalla and Crook, 2002; Lewin, Mavers and Somekh, 2003). Yet once again, when careful attention is paid to the way learning out of school is supported through technology and home–school communication is properly engendered, the results are extremely positive from both home and school perspectives (Luckin et al., 2006).

This brief consideration of what is known about learning outside school sets the context for consideration of the ways in which Web 2.0 technologies are being used in the home and the contrast between this and the use of Web 2.0 technologies in school. In particular, in considering the educational potential of Web 2.0 technologies, it must be remembered that these technologies are already part of learners' out-of-school learning environment. Any attempts to formalise the learning potential of Web 2.0 technologies, and in particular any that try to reap advantages from their potential to link what happens in school with what happens outside of school, should not underestimate the complexity of the relationship.

The view from the data

Access to computers at home was found to be very high (98.4 per cent access to a laptop and/or computer; 96.6 per cent access to the internet either through wired and/or wireless connections). Virtually all schools were found to have one or a few individuals who reported lack of out-of-school access. However, the lack of access to a computer at home varied from 0–3.8 per cent between schools; lack of internet access was more varied (0–10.2 per cent).

Boys were significantly more likely than girls to have access to a desktop computer for themselves, but there were no significant gender differences with respect to laptop access. There is also an age effect in relation to computers, with older children statistically significantly more likely to have 'mainly for me' access to a computer. Boys were also significantly more likely to have 'mainly for me' access to a TV and girls were more likely to share access with their family. Older learners also had significantly more 'mainly for me' access to a TV.

We have defined use based on the lack of an answer to the 'don't use' category. This is strongly correlated with the presence of an answer to the 'mainly for me' or the 'shared with family', though it is not a precise inversion. This decision was taken to ensure that a 'don't use' response is possible in a situation where access is possible. For example, a handheld game could be shared in the family but not used by a respondent. Some categories have been collapsed here (for example mobiles with and without a camera and internet with and without wireless); this was because camera-enabled phones are the norm (93 per cent) and wireless internet is commonly used (70 per cent).

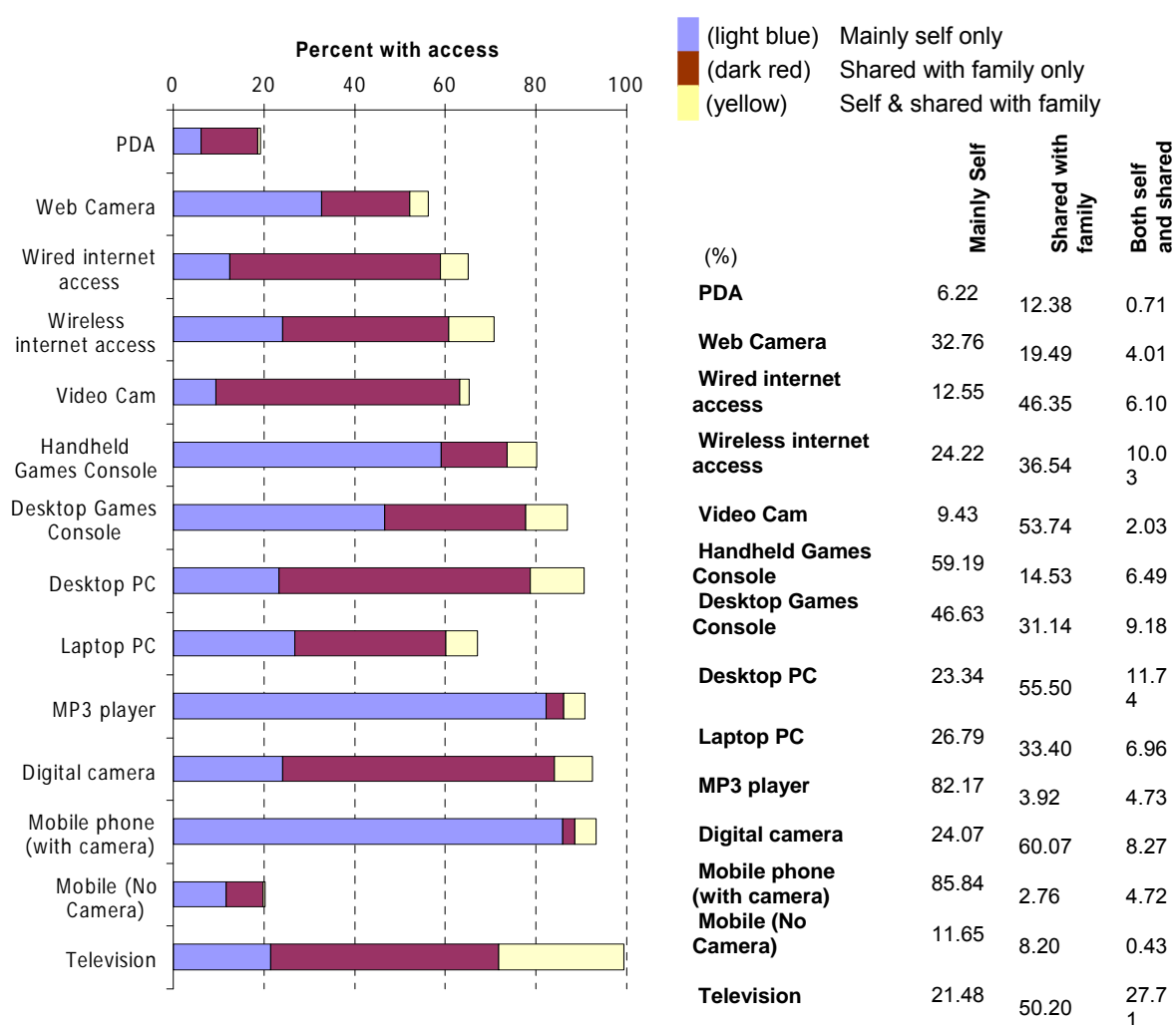


Figure 13: Learners' reported access to technology at home and at school (data only available for national sample)

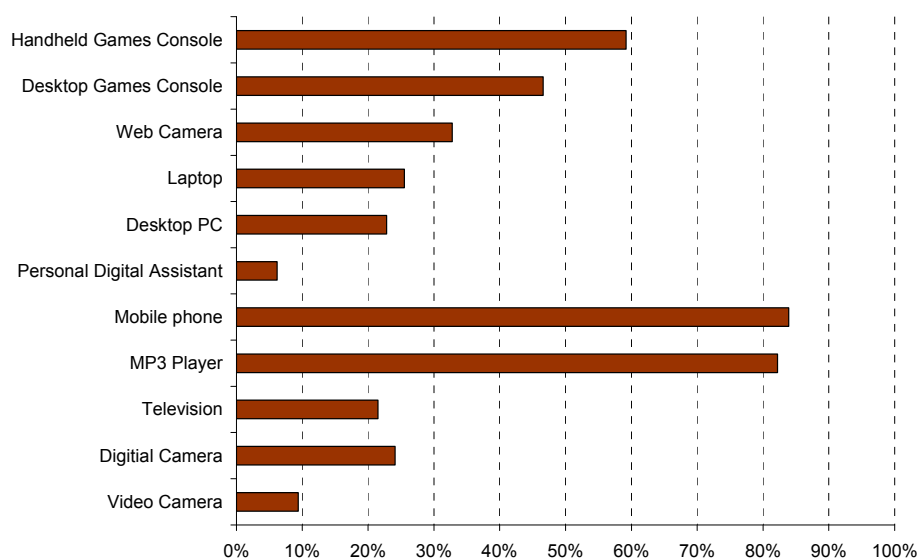


Figure 14: Percentage of learners indicating access to technology that was mainly for their personal use, normative sample only

Instant messaging and social networking sites (particularly Bebo) are popular amongst groups who make use of Web 2.0 technologies. Games are also popular with these learners, but not necessarily online multi-player games. Equally, all of these activities are perceived by these learners to be common amongst their peer groups generally. Uses of blogs and wikis for leisure purposes, even within social networking sites, were perceived to be limited. Uses described suggest a degree of sophistication and a preference to multi-task (accessing MSN, Bebo and undertaking homework simultaneously). One group of Year 10 girls described in detail how they uploaded video clips from their mobile phones to their Bebo sites, and how 'easy' it is to copy video clips from elsewhere.

The differences between in-school and out-of-school learning with Web 2.0

Learners' use of technology varied between 'in school for work' and 'out of school' (Table 7) and is shown graphically in Figure 15.

	Out of school only (%)	In school only (%)	Both in and out of school (%)	Never done it (%)
Wikipedia: Looking something up	19.0	26.2	47.0	7.8
Shopping: Buying something online	61.5	0.6	1.0	36.8
TV/Video clips: Watching online	75.3	2.5	17.2	5.0
Radio: Listening to a radio program online	41.4	5.3	6.8	46.5
Discussion: Writing to an internet discussion board	36.6	6.0	5.0	52.3
Commenting: on someone else's file	63.7	3.6	4.4	28.3
Downloading to save: music	78.2	1.3	3.4	17.1
Downloading to save: video	62.0	1.7	3.6	32.7
Uploading to share: a photo you took	65.7	2.1	5.3	27.0
Uploading to share: a video you shot	46.37	2.8	2.6	48.3

Uploading to share: music or speech you created	35.67	5.4	3.8	55.1
Editing: Video	37.87	7.8	6.5	47.9
Editing: photograph	57.07	6.0	12.2	24.8
Editing: sound	37.67	8.1	4.7	49.6
Editing: Editing a wiki	14.37	6.0	3.3	76.4
Email: sending email from your own email address	53.8	5.4	27.9	12.9
Email: sending an attachment	38.0	11.4	29.2	21.4
⁷ Blogging: creating or writing a blog	48.7	5.0	4.2	42.1
Social Networking: creating a personal profile	69.3	3.0	5.2	22.6

Table 4: Percentage of learners who commented on remembering whether they had done an activity in or out of school

It is notable that there is heavy use of Wikipedia both in (73 per cent) and out (66 per cent) of school

From the data available from the survey there is no particular demographic or factor that identifies the 26.2 per cent of pupils who said they used Wikipedia at school but not at home.

Learners' use of other activities are in strong contrast to the use of Wikipedia and their use of these at home far out-weigh the proportion that have used it at school. In effect schools are not using technologies that many pupils are familiar with and could be used as teaching resources such as listening to a radio programme online (out of school only = 41.4 per cent, in school = 5.3 per cent) or watching an online video clip (out of school = 75.3 per cent, in school = 2.5 per cent) despite the number of excellent educational audio and video resources available on the Web. This finding is perhaps not surprising, however, as it strongly reflects the finding from schools surveyed, their contention that current web filtering policies in place for schools are too restrictive, particularly those outside of schools with direct control over filtering activity, such as local authorities, borough councils and internet service providers, with teachers finding that this excludes their use of valuable teaching resources such as those to be found on YouTube.

⁷ This figure is high and whilst it is not possible to determine the exact nature of this blogging activity, other data reported here (see the Chapter 3 section on Blogs) suggests that it is likely to be part of social network use.

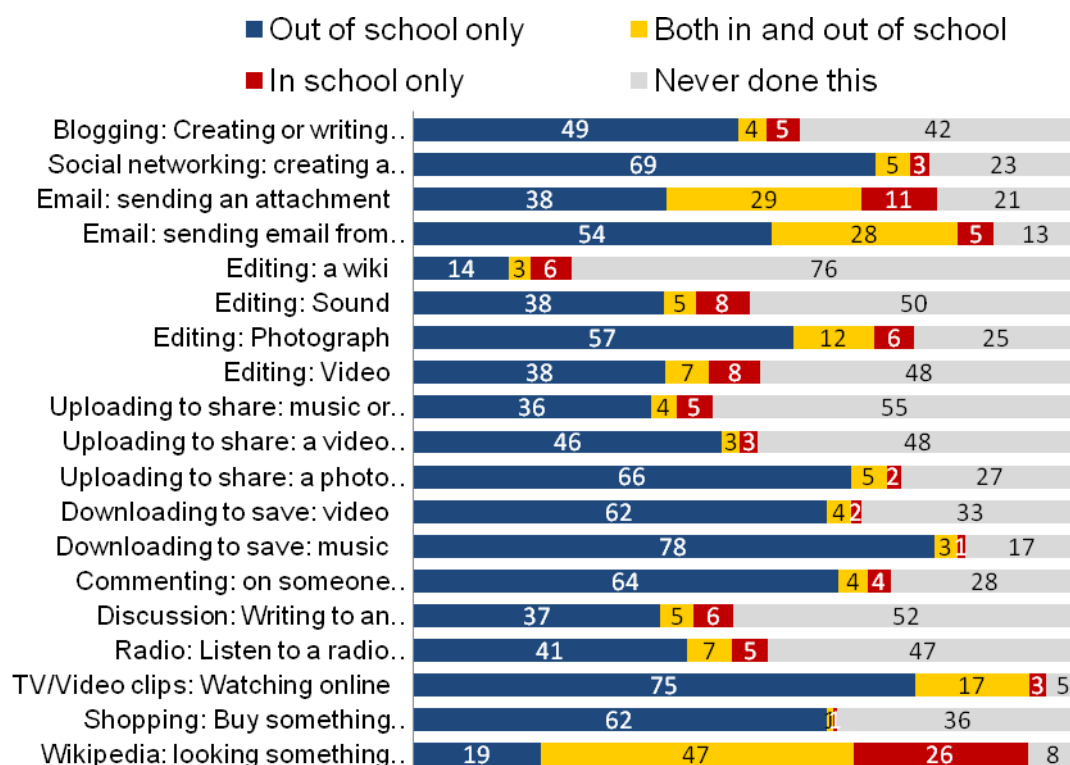


Figure 12: Learners' use of related Web 2.0 activities in and out of school (note that any totals need to include 'both in and out of school' as these learners indicated that they had carried out this activity in both locations)

Pupils' use of other more collaborative Web 2.0 examples out of school is also much higher, such as writing to an internet discussion board (out of school only = 36.6 per cent, in school = 6 per cent) and commenting on another person's files (out of school only = 63.7 per cent, in school = 3.6 per cent). This suggests both familiarity and willingness by students to take part in this type of activity.

High levels of Web 2.0 use at home add weight to the opinion expressed by teachers that learners are proficient in the use of a much broader range of technologies which they use outside school as they do not have access to these within school. However, this does not necessarily reflect student's ICT literacy levels and understanding, examples of which are seen in pupils' awareness of internet security.

Chapter 6 - Tensions surrounding the use of Web 2.0 technologies

This chapter discusses particular tensions surrounding the use of Web 2.0 for learning: digital divide issues, non-use and attitudes towards it, online identities, and real-life friends versus internet friends ('anonymous intimacy').

Digital divide issues

The view from the research literature

The question of the digital divide is not a new one. What is new, however, is the move away from notions of this gap in provision stemming from physical access to hardware, software and connectivity towards a new perspective which addresses the gap between young people's experiences of new technologies in informal contexts and those experienced in formal contexts, such as education. Green and Hannon (2007) refer to the 'disconnect' between young people's digital reality and that of their elders, arguing that it is access to knowledge rather than access to hardware that is now the most pressing issue. Buckingham (2007) supports this view, arguing that the disparity is between learners' in-school and out-of-school access to technology – in the sense that out of school they are accessing gaming, social networking, instant messaging, and other forms of new media, whilst in school they continue to be faced with skills-based training in technical skills for the workplace.

Selwyn (2006b), on the other hand, points to the so called 'legitimacy crisis' between teachers and learners and suggests that the 'disconnect' in learners' in-school and out-of-school experience of technology results from in-school regulation through school rules, content filters and firewalls. However, he concludes that 'net-savvy' learners are also 'school-savvy' and whilst their in-school uses of technology were often regarded as frustrating or annoying and less than satisfactory, many learners demonstrated a clear understanding of the differences between in-school and out-of-school contexts and generally chose to work around difficulties rather than choosing to disengage, although it was clear that schools as institutions were struggling with the blurring of boundaries caused by learners' internet use in the school context.

With these comments in mind, this report responds to the need to understand what these 'net-savvy' learners are doing with technologies in informal contexts and to develop guidance to assist policymakers and practitioners to develop an understanding of ways in which these different uses and applications of technology can be brought closer together. In effect, just as Selwyn describes learners as being 'school-savvy', schools need to become more 'student-savvy'.

Selwyn and Facer (2007) refer to the digital divide as the arena of the 'digitally disadvantaged' and argue for a policy of 'digital inclusion'. They further clarify this by suggesting that the increasing use of digital tools requires:

... individuals to appropriate new 'ways-of-being' requiring them to become reflective and reflexive, building upon and learning from past experiences and reacting to new opportunities and circumstances.

Arguably, the term 'individuals' here could also apply to traditional institutions as they find themselves face –to face with new media practices both in education and in the workplace. The question that needs to be asked is not, "How can we stop these practices?" but "How can we turn these practices to our advantage?" In order to understand how they can be used, we need to know how they are being used and this requires an evaluation of examples based in practice.

Boyd (2007), by contrast, referring specifically to the use of social networks, speaks of a 'participatory divide' rather than an access divide, with access defined by choice, interest and regulation amongst others.

The view from the data

Of the four focus groups (three from KS3, one from KS4) who were asked about their ability to access the internet from home, all but three learners had access to high-speed (broadband) internet. However, learners could not always access shared computers in the home, or could only access computers for limited periods of time due to sibling or parent use.

Many learners' computers were located in a shared area: living rooms, studies, computer nooks. Of those learners who had their own desktop or laptop, not all were connected to the internet.

As discussed elsewhere in this report, learners consistently reported having more freedom of access to given websites at home than at school. "You kind of have free access, like you have access to everything instead of just a couple of things" (female, Year 8, high, #W9). The problems that are encountered by learners attempting to do research and/or access Web 2.0 technologies are explored in greater detail elsewhere in this report. Access to computers during the school day varied by school, with some reporting reasonable access and others, a shortage.

The nature of the data collected was such that parental knowledge of online activity was generally probed with respect to parents' knowledge of what types of Web 2.0 activities their child was engaged in online. However, a rich exchange about parental expertise from one group (Year 8, high, #W2) captures something of the variety of contexts of learners' homes regarding how sophisticated family members' knowledge of computers, the internet and Web 2.0 tools may be. Of these learners, two had access to relatives who worked primarily with computers: one building websites and another, designing games. One learner reported her parents to be skilled at using the off-line applications for accountancy, whilst others reported that their parents had limited skills: database research, genealogical searching, and basic web-searching.

One reported that his parents “don’t know anything” about computers. No learners mentioned that their parents had any particular expertise with or use of Web 2.0 technologies, but this may have been outside the scope of the conversation.

Though learners were aware of their schools’ procedures and tools for monitoring internet use, the inconsistency of these devices sometimes encouraged learners to manipulate the blocks in place. In some cases, learners described examples of reaching a known blocked site accidentally through web searching. Of the ‘high use’ learners in a school whose technicians occasionally monitored student screens directly, only one student reported that this precaution discouraged her from attempting to access prohibited sites. In some cases, learners described examples of reaching a known blocked site accidentally through web searching. Most commonly pupils said that they were monitored by teachers in the classroom (physically or virtually) and that a range of sanctions including withholding internet access for periods of time were applied when rules were broken. Often sanctions implemented were school-wide and these instances were perceived by the learners as inappropriately targeting masses of learners for the misdeeds of select individuals. On one national survey school’s wiki:

“...there was one person you know and she wrote like a whole page of why we hate [them]. No idea what it was about, but she got blocked for that. But then the whole – everyone got blocked for it. And so why should we get blocked for one person’s mistake?”

(Female, Year 8, high, #N1)

The perceived inappropriateness of blanket bans was echoed by other learners. Indeed, the generalised nature of blocks and inflexibility of the systems in place contrasts with most learners’ experiences with monitoring at home which tends to be based on dialogue and trust (see below). However, learners realised that sanctions were imposed to control inappropriate behaviour which they acknowledged some individuals engaged in. In general, they viewed school policies as ‘unfair’, as a barrier to effective uses, and overly controlling when they feel that majority of learners would behave responsibly. They noted that more freedom but with additional automated monitoring (checking for inappropriate language use, for example) would perhaps go some way towards balancing control with autonomy. Learners in every group described how social networking sites, YouTube and instant messaging, and in some cases email, were blocked by the school. As to be expected, many learners indicated frustration relating to tight control by schools of acceptable sites that could be accessed, including those that were seen as safe and even sites that were deemed useful for school work:

“What I don’t like is when you click on a website like in Google, that you typed in the search engine for, and it goes, this has been blocked by your school. And that really

peeves me off.”

(Female, Year 10, high, #N14)

The methods which schools used to implement blocks varied from occasional screen monitoring, to pop-ups which warned the offending student of temporary suspension of internet accounts, to screen captures which locked down accounts automatically; one male student said he was no longer allowed internet in school because he had accessed Bebo. These issues are considered in more detail in a separate project report dealing with e-safety.

The most frequent reason given for circumventing boundaries in school settings were feelings of boredom, a need to multi-task and work avoidance. The feeling that one's free time was one's own even within school was a popular justification, though the belief by some learners in at least three schools that unrestricted access to social networking sites or instant messaging in lessons would mean that “most people won't do their work, will just go on it” was also strong.

Many learners described multi-tasking in this way when at home in their own environment – according to one high-use group, usually by using instant messenger whilst doing other activities. Of the 26 learners in this sample who were asked whether they engaged in multi-tasking at home, all but four said they did so. The most popular tools with which to engage were music, instant messaging, and social networking sites. Multi-tasking could include holding multiple conversations at once, as it did for one Year 8 male student (high user).

There was more variation in whether learners perceived multi-tasking to be beneficial or irrelevant to their work, or to be a negative distraction. One learner noted that if he was on MSN whilst doing homework, this could help “if you get stuck or you're not sure on anything” (male, Year 9, high, #W10). The distracting nature of the additional task was perceived by some learners to be beneficial in itself. As this extract from Year 10 high Web 2.0-users (#N9) shows, learners have a variety of reasons for engaging in multi-tasking:

F2: I always have music. I have music on my computer.

Researcher: And you feel that helps whatever work you're doing or distracts you?

F2: Yeah, it's just nice to have something distracting.

M2: When I'm doing – I don't like do MSN and homework at the same time. I do MSN and Bebo but when it's homework, I just do homework.

F1: I tend to always listen to the radio, even when I'm reading or something. But it doesn't distract me. I just like it. I feel like someone's there, sort of thing. I don't like being on my own.

M2: I don't try to normally, but then when I've got a really long homework and I've done it for ages, you just want a distraction.

Here, using music serves different purposes for different individuals: for one, to provide a temporary distraction, and for another to provide a sense of companionship. There is variation, as well, in the preference to engage in multi-tasking whilst doing homework, and whether this is seen as beneficial for one's work. The nature of the data collected does not permit us to speculate about whether the learners' multi-tasking actually proved beneficial or detrimental to their work, but we can say that whilst the majority of learners engage in multi-tasking at home, not all engage in Web 2.0 activities to multi-task, few learners multi-task in the same way (if at all) when using computers at school, and not all choose to engage in other activities whilst doing homework.

Non-use and the reasons for it

The view from the research literature

Selwyn (2006a) points to four broad themes for non-use: no interest or need, no knowledge, barriers (lack of time, age, health, etc.), or no access to a computer. Boyd (2007) reaches a similar conclusion regarding non-users, suggesting that these fall into two key types of individual – the disenfranchised and the 'conscientious objectors'. The former represents those without internet access (whether through banning – by parents, school or other public venue); the latter those who are politically motivated (object to ownership of site), obedient to parents (over moral/safety concerns), marginalised (it's only for the 'cool' kids) or aloof (those who feel they're 'too cool'). At the same time, Boyd makes the critical observation that whether they are participating or not, young people are nevertheless very aware of these new technologies (online social networking) and their uses: 'In essence, MySpace is the civil society of teenage culture: whether one is for it or against it, everyone knows the site and has an opinion about it' (Boyd, 2007).

Non-use is also related to economic circumstances but is just as likely to relate to other factors such as age, lifestyle, gender or cultural differences and ability. Ability is an interesting factor and relates not only to economic barriers but also to knowledge and skills, and fears and stress of inexperienced users around the notion of internet use (Dutton and Helsper, 2007).

The view from the data

One of the most popular types of Web 2.0 technologies is social networking sites with only 24 per cent of learners overall stating that they did not use it. However, learners from the national sample were significantly less likely to use social sites (26 per cent non-users) than learners from Web 2.0 schools (21 per cent non-users). Recurrent reasons for not using this technology were:

- It's boring, time-consuming or uninteresting
- Parents won't allow it
- Awareness of dangers
- Haven't got the time
- Lack of knowledge.

Focus groups explored reasons for non-use – both of social networking sites and Web 2.0 more widely – in finer detail. The reasons behind learners' non-engagement in internet activities more widely, and Web 2.0 activities in particular, can be broadly categorised as either attitudinal or non-attitudinal.

Of non-attitudinal factors behind non-use of Web 2.0 tools, access was reported to be key. Of the learners in the sub-sample, seven cited technical barriers to access as their main reason for not engaging with Web 2.0 technologies. Of these, one cited inability to access the internet altogether and two quoted unreliable internet access. One girl found off-line games easier to access than online games, two boys had found difficulty in registering for a social networking site and an instant messaging service, and finally one girl found the computer "a bit slow" (Year 7, low, #W3).

In addition to access, parental directives against using technologies played a role for two learners. Some learners were unfamiliar with Web 2.0 tools that are less popular within this age group, such as blogs.

However, even though some learners claimed non-attitudinal factors to be important in their non-use of Web 2.0 technologies, attitudinal factors played a role in these learners' predictions of whether they would wish to use popular Web 2.0 tools were their technical difficulties resolved. In the following extract, Female 2 has previously had internet access and been a user of social networking technologies:

Male: I think I'd like to have them available, but I probably wouldn't use them that often.

Female 1: Yes. It's like you'd like to think you could go on if you felt like it, but it's whether you did feel like it or not and, yes, if you had the time to.

Female 2: Yes, I'd go on it if it was like there, and the sites were available. Otherwise, no.

Researcher: No? So do you miss it now?

*Female 2: No.
(Year 10, low, #W9)*

These learners, while welcoming the opportunity to have access to Web 2.0 technologies, suggest that even were their technical problems resolved, they would

give careful consideration to the decision to engage with these technologies. It is having the option of whether and how to engage with the technologies that makes the difference for these learners.

Of the attitudinal factors, 'boredom' with social networking tools and perceptions of the internet as a dangerous place dominated the sample.

Eight learners reported finding popular Web 2.0 tools such as instant messaging and social networking sites 'boring', whilst others also believed that social networking tools were not intended for their age group. Sometimes this boredom was a result of losing interest with a particular site after initial engagement with it, and relates to the need for a critical mass of users who are interesting to the individual young person. Firstly, the user must identify with the online community with which they are potentially engaging: "I don't find forums display something that I'm interested in, really. There's quite a lot on this silly battle between indies and chavs, and things like that, and I'm just not interested..." (male, Year 10, low, #W2). Some users found that "When you start out more people are interested in it and then, as you become an old member, you just kind of... Like, if you've been a member for a long time, you kind of lose contact with it and it becomes boring." (Male, Year 10, low, #W2) Groups at two different schools described how popular sites changed quite quickly. The idea of a critical mass of users is inter-related with the appeal a particular site has towards a given social group, as below:

Researcher: You don't look very impressed with it [Piczo].

Female: No, because you have to upload all your pictures and you have to change –

Male: It wasn't a big thing though.

Male: Everyone had their own website, with MyMates, and you click on it and go to all the names of your friends and click on them and have a look at all of them.

Female: It did get a little boring though, and Bebo's a lot quicker.

Male: And then people changed to Facebook.

These extracts demonstrate how quickly the social networking site of choice may change, as a result of users becoming bored with the functions, opportunities and content of a particular site and the related migration of a mass of users to a new arena. Social networking sites, in particular, may require the continued investment of its community members in content generation – which the above extract suggests not all users are willing or able to commit to.

Perceptions held by learners that Web 2.0 tools could be unsafe or dangerous also figured in reasons for non-engagement. Some fifteen learners in the sub-sample

voiced concerns about safety as part of their reason for not engaging, or regulating their engagement, with Web 2.0 technologies.

Concerns about safety may discourage learners from venturing beyond their used, trusted Web 2.0 tools: "If I ever went on something new – which I don't go on now – something like people can register, I don't know, then I wouldn't feel safe, even though I know I haven't given anything away, but if I'm on something like MSN, or something." (Female, Year 8, high, #W2) Many learners indicated that because of safety concerns, they kept their social networking profiles private. A number of learners suggested that media reports informed their perceptions of the internet as a dangerous place. Learners who held these perceptions of the internet as dangerous categorised Web 2.0 technologies as places where deception and enticement were significant dangers: "People say you have to be over 16, or 18, and some people say you have to be over 13 [to use Bebo] but I don't really trust people on it...they could be lying. Loads of stuff goes on." (Female, Year 8, unknown use) Risk may be perceived to be ever-present, even if learners do not allow it to inhibit their Web 2.0 use: "I do enjoy using [MySpace] but there's always, like, dangers of it, so I do take it into consideration, but there's always a chance you can get cyber-bullied on there" (male, Year 10, low use). Thus risk, from learners who note safety concerns as a factor in how they use or do not use Web 2.0 technologies, is mostly focused against unknown individuals but also against peers who perpetrate bullying or, more likely, insensitivity. "And loads of people get offended by [friend rankings] and it's like... there's these, loads of people are kind of like 'Oh I got moved down their friends list and so they don't like me any more' kind of thing." (Female, Year 10, unknown usage, #W3)

A preference for face-to-face communication also featured in at least eleven learners' decisions not to engage with Web 2.0 technologies. Their reasons included because "you have good fun" (female, Year 10, low, #W2) and because it was more appropriate when you know someone well. One learner noted that "you might as well just meet up with your friends" (female, Year 10, high, #N9), suggesting that for her, online communication was not the venue through which friendships should be best maintained. The belief that online communications took away from time spent with family was expressed by two learners. Many learners in this sample characterised Web 2.0 tools as "addictive", although this was only classified as a reason for non-engagement by two learners.

This preference for face-to-face communication included a partiality for collaborative learning that used face-to-face, rather than online, communication, as it was judged that the former was more efficient for expressing complex or visual ideas: "Because if you're doing something and your friend can say, 'Well I don't think that's right' or 'It doesn't look very good'" (male, Year 9, high, #W10). Speaking to friends in school was deemed sufficient for some learners. A desire for face-to-face interaction was cited by both boys and girls as a reason to opt out of social networking and online

chat. The online interaction was conceptualised as less fulfilling than its real-life counterpart:

"I don't see the point in wasting all my time on the computer when I could actually go out meeting people."

One student engaged in after-school lessons said she preferred a "proper teacher" to one who used online discussion forums to deliver lessons.

Telephone communication was also preferred by some learners, particularly for pursuing help with homework, as this was deemed more immediate and therefore less subject to problems of asynchronous communication such as one's homework partner being unavailable.

For some learners, online communication was less preferable to engaging with alternative hobbies, such as music. This included the belief (held only by males in this sub-sample) that because one was "just a more active person" (male, Year 10, low, #W2) one wouldn't prefer online communication. High users of Web 2.0 technologies still found drawbacks to some methods of communication. One student spoke about her experience connecting to other users via a games console:

"...people introduce themselves and everything and you're like, I didn't really want to know that. But it's like like – it's really scary because it's like you can't see them or anything. You just hear their voice. And it makes you feel really insecure with it, it's really frightening."

(Female, Year 8, high user, #N14)

The context of the interaction was intimidating to this student, but others found such games simply un-engaging.

Some learners believed that the internet did not always have the quality or reliable information they desired for their learning, though this was recognised as a problem with books as well. Whilst it was recognised that the internet offered a wider range of information, some learners believed that for mainstream topics, books could be more detailed. The variation in the level at which information could be pitched on the internet led one learner to prefer using books: "Some of the stuff is like, you know, the stuff that people have been doing at university and stuff and it's like, it goes into depth about stuff that you don't really need to know to write about. And sometimes it's like it's either pitched at your age group or younger..." (Female, Year 10, unknown usage, #W3)

Two learners whose school is experimenting with using 'de.li.cious' the social bookmarking tool, did not use this tool at home because they felt it took longer than just remembering websites which they used frequently. One learner noted that for art, books were preferable because pictures were of better quality and easier to

reproduce. However, it should be noted that the overwhelming majority of learners in the sample preferred using the internet for performing research, as discussed elsewhere in the report.

Finally, one learner said he did not enjoy working collaboratively at all and so would not use Web 2.0 technologies to do so, and half a dozen learners said that they did not engage in Web 2.0 technologies because they used the computer primarily for academic purposes – which they presumably saw as precluding the use of Web 2.0 tools.

The intrusion of 'text-speak' into verbal conversation was portrayed negatively as “embarrassing” by a small number of girls and boys at high-achieving schools.

The erosion of a divide between home and school life sometimes had negative consequences, with classroom disputes continuing overnight in the domestic arena. Learners at both participating schools mentioned arguments over chat or social network sites which either precipitated or followed disagreements at school. Some learners admitted to gossiping online about “who’s had a fight in the toilets”.

Low users of Web 2.0 technologies sometimes engaged selectively with some of the technologies on offer, such as sharing pictures electronically or using email rather than instant messaging. Despite opting out of some activities, they were generally able to view positive attributes of Web 2.0 modes of communication. One group of low users agreed that instant messaging was preferable to email because of the instantaneous flow of communication. Most low-engagement learners at one selective school said they found online information too diffuse, unreliable and irrelevant to be useful in comparison to books; however, this concern was echoed (though less strongly) but some high-engagement learners as well. One boy noted that he’d rather go on YouTube than social networking sites. Learners at numerous schools reported that they would rather pursue their athletic hobbies.

As explored elsewhere, blogs were unpopular in this sample. The two most common reasons given for non-engagement with this tool were concerns about strangers viewing the blog and lack of perceived interest in the broadcast of one’s personal life. Again, wiki contributions were similarly extremely unpopular.

Online identities

The view from the research literature

Social networking sites operate around the creation of personal profiles and the generation of friendship groups. These profiles contain information about participants, their likes and dislikes and general interests as well as an indication of their relationships with others, both on- and offline. Profiles can be public or private. In a recent report on social networking, Lenhart and Madden (2007) report that 66 per cent of teens who have created a profile say that their profile is not visible by all

internet users and that they (the profile owners) limit access to their profiles by others.

A key issue around profile networks like Bebo, MySpace and Facebook is their operation of friendship networks. This encouragement to generate friendship lists has many implications for the development of learner identity both on- and offline, in particular, relating to issues of privacy, e-safety and bullying (Grunwald Associates, 2007) but also in relation to more positive aspects such as the development and pursuit of shared interests and common goals and purposes, described by Gee (2004a) as affinity spaces (purpose, interest, content).

McIntosh (2007), in a presentation given at the Building Learning Communities conference in Boston in July 2007 on public identity in an online world, suggests that the public and private self are two sides of the same coin and that identity construction in an online world very much involves the activity of making the implicit explicit as a case of "Who do you want to be?" which, in turn, raises the question of 'audience' and 'identity'. For young people audience you might say is everything.

Matt Locke (2007), looking at social media and identity spaces, presents a user-centred model, based around user assumptions, behaviours and relationships, as follows:

- **Secret Spaces:**
Type: private intimate, controlled
Examples: SMS, instant messaging

- **Group Spaces:**
Type: reinforces identity of self-defined group and individual's positioning within group
Examples: Facebook, Myspace, Bebo, etc.

- **Publishing Spaces:**
Type: content creation, showcase, audience outside usual social group
Examples: Flickr, Youtube, Revver, etc.

- **Performing Spaces:**
Type: defined role within game structure; simulation, teamwork to achieve a shared goal
Examples: MMORPGs, sports, drama

- **Participation Spaces:**
Type: co-ordinated individual acts towards a common goal
Examples: Meetup, Threadless, CambrianHouse.com, MySociety

- **Watching Spaces:**

Type: passive role, individual as part of a large group; events-based
Examples: Television, cinema, sports, theatre, etc.

In this sense, it becomes clear that the act of making identity formation explicit calls upon the user to formulate a greater awareness of context, implications and issues around the reception, permanence and representation of identity in a public space.

Perkins (2007) in his unpublished MA thesis, suggests that the issue of space and identity is an important one when considering the cross-over between in-school and out-of-school uses of online social networking tools, pointing to a lack of enthusiasm amongst his learners around the suggestion that they use the online social networking site Facebook (on which many already had existing profiles) as a medium for homework. This note of caution is an important one when it comes to considering ways in which these new technologies may be taken up in other contexts, such as formal education, in the sense that learners may see the appropriation of their 'public face' and spaces as an invasion of their leisure spaces.

Identity formation in formal and informal online spaces generates a wide range of issues, involving a multiplicity of stakeholders. In the move from informality to formality, the degree of self-determination and other-regulation rises considerably. Selwyn (2006b) points to schools' struggle to adapt to learners' autonomous uses of the internet and the impact that has on their in-school use of the same technology. When considering identity issues, particularly those relating to online activity, stakeholders (employers, parents, teachers, local advisors, for example) have concerns about privacy, data protection, appropriate representation of the institution/organisation/family (Green and Hannon, 2007; Grunwald Associates, 2007) whereas young people are more concerned with issues relating to the construction of their individual personas, acceptability amongst peers, popularity ratings and self-promotion (Boyd, 2007). Official bodies such as schools and employers feel that young people give out too much personal information and often share inappropriate information online.

As consideration of the usefulness of Web 2.0 tools enters mainstream society, issues arise over how to use these tools appropriately, effectively and safely. In recent years, there has been a rise in e-safety education both in schools and online, with greater involvement of parents, policymakers and child protection organisations through sites such as Next Generation⁸, CEOP⁹ and ThinkUKnow¹⁰. It would appear that such initiatives may be beginning to bear fruit. The NSAB study in the US

⁸ <http://www.nextgenerationlearning.org.uk>

⁹ <http://www.ceop.gov.uk>

¹⁰ <http://www.thinkuknow.co.uk>

(Grunwald Associates, 2007) reports that whilst 52 per cent of schools feel that learners giving out personal information online is a 'significant problem', only three per cent of learners admit to giving out personal information. In the same report, parents indicate that whilst e-safety is seen as an issue, it is best to cater for this whilst learners are actually using the relevant online tools. Green and Hannon (2007) support this view, suggesting that regulation (banning and filtering) may prove ineffective against technologies which are constantly evolving and 'digitally-savvy' children, and it is more appropriate therefore, to equip young people with the necessary critical tools to make the right choices.

That this is an important issue to be addressed is reflected in a recent UK study in which 2,053 young people were surveyed. The study, conducted within the Habbo Hotel online social networking site (NSPCC, 2007) reported that just over 50 per cent of young people had encountered an 'unwanted experience' online. In the same study, participants indicated that their top reasons for being online were:

- Making new friends (1824)
- Connecting to friends I already know (1630)
- Improving communication skills (1324)
- Finding people like me (1315)
- Getting advice from people my age (1288)
- Knowing I'm not alone (1194)
- Sharing problems with people my age (1098)

The view from the data

Issues of online safety will be more fully addressed in another report from the project that looks specifically at that subject. However, a number of points relevant to non-use of Web 2.0 technologies may be made at this time. Experiences of hacking and manipulated identities were pervasive in discussions about possible drawbacks of online technologies. (Some of this data was collected shortly following the broadcast of a Panorama television programme about online safety, but this data was consistent with that collected at other times). This sometimes took the form of someone hacking into a young person's account and using this account to harass other contacts. Whilst the majority of learners appeared knowledgeable about basic online safety precautions and about half had parents with some knowledge about their online activities (and had advised them on not giving away details which identify them, verifying the identity of people previously unknown to them and not meeting strangers), some startling incidents were reported, often committed by former friends. Many learners were aware of the importance of keeping passwords private, but knew of instances where others' had guessed passwords and secret questions – one school's learners reported that their school had issued them all with the same password but different user names.

Some noted that social networking sites could be used for cyber-bullying, although they understood that there were means of reporting learners who engaged in such anti-social behaviour and that sometimes the websites themselves had mechanisms for dealing with such activity.

In one school learners described a variety of instances relating to adults demonstrating the ease with which a person could hide their true identity, possibly posing a threat. In one case, a Year 8 female described how her father had posed as a friend in Bebo to prove a point. A Year 10 female in the same school said that a teacher had done the same. Issues may also arise when friendships that may be initially confined to one area of online activity, such as an online game, flow over into other areas of activity, such as social networking sites where more personal information may be available – as happened to the friend of one participant. Or when young people elect to meet their online-only friends in real life – in every group someone reported they knew a peer who had attempted to do so. Only one student admitted to meeting online-only friends in real life, a male who used the internet to meet local girls (interestingly, the idea that local youths are safer than ones who live elsewhere was repeated by another student). This suggests that whilst this behaviour is taboo, perhaps leading to learners being reluctant to volunteer their own experiences, even if this activity is over-represented in the sample, real-life meetings of online friends occur with some frequency.

That other people manipulate their identities online was generally well understood by learners, yet very few said that they had done this to any degree. One student reported that she had manipulated information about herself online in order to befriend others. Again, the taboo nature of this behaviour may discourage learners from reporting their own activities.

Real life friends vs internet friends ('anonymous intimacy')

The view from the research literature

Whilst the figures from the Habbo survey appear to show a comparative balance between making new friends and connecting to friends participants already know, Green and Hannon (2007) suggest that 'the majority of young people use new technologies to strengthen existing friendships'. This assertion is supported by a study by Pew Internet in 2007 in which 91 per cent of social networking teens say they use these sites to stay in touch with friends they see frequently, while 82 per cent use them to stay in touch with friends they rarely see in person, and just 49 per cent use the sites to make new friends. There is a slight gender difference between older boys and girls in relation to those who say they use the sites to make new friends (60 per cent versus 46 per cent).

The issues and tensions around youth identity, and online identity in particular, are the subject of much debate amongst stakeholders across a wide range of contexts,

from parents to policymakers, teachers to teens themselves, as well as amongst the academic community seeking to better understand the implications of virtual social networks and their implications for the physical self. Boyd (2007) identifies four properties of virtual networking that are not typically encountered in face-to-face public life, which she terms 'persistence, searchability, exact copyability, and invisible audiences'. She goes on to examine how these elements shape 'identity formation, status negotiation and peer-to-peer sociality' arguing that these additional properties of online social networking complicate and fundamentally alter the social dynamics of individuals and groups in a process she defines as 'networked publics' within which teens can 'write themselves and their community into being', thereby providing them with a place to 'work out identity and status, make sense of public cues, and negotiate public life'. This is an important issue. If young people are turning to net-based sources as a means of forming identity, what impact does this have on their perceptions of self, their development of a robust self-esteem, and the ability to articulate their identity in meaningful, context-based ways?

The contrast between on- and offline identity appears to create new spaces for young people, spaces where they have the opportunity to 'try on' other selves, or to adopt new perspectives on who they are, or could be, by reaching out to new audiences. Boyd (2007) provides the following anecdote:

"I'm in the 7th grade. I'm 13. I'm not a cheerleader. I'm not the president of the student body. Or captain of the debate team. I'm not the prettiest girl in my class. I'm not the most popular girl in my class. I'm just a kid. I'm a little shy. And it's really hard in this school to impress people enough to be your friend if you're not any of those things. But I go on these really great vacations with my parents between Christmas and New Year's every year. And I take pictures of places we go. And I write about those places. And I post this on my Xanga. Because I think if kids in school read what I have to say and how I say it, they'll want to be my friend."

(Vivien, 13, to Parry Aftab during a 'Teen Angels' meeting)

This extract is particularly interesting as it reflects the kinds of cognitive relationships young people make between their on- and offline identities. Roles and relationships in real-world contexts that would normally be perceived to confer self-esteem, confidence and the constraints on achieving these are identified alongside the potentials of social networking to fulfil those roles, but also with the desire that these be reflected back into the real world context. It is also interesting to know how that 'search' for friendship in virtual space is effected – through text and image – with the anticipation that not only will there be an audience 'out there' but that that audience will come from the real-world social community. In this sense, Vivien is exhibiting a form of 'anonymous intimacy' not with people she doesn't know in person, but with those she does know.

The view from the data

The benefits mostly frequently cited by young people of using Web 2.0 technologies out of school were that such technologies were free and facilitated communication with friends who lived elsewhere or attended a different school. Some learners noted that they preferred online communication particularly in winter, when poor weather made physical meetings difficult. It was perceived to be the 'in thing' to do. For girls, it was a place where exciting events of the day could be discussed at length, to chat with friends and socialise. Some suggested that the safe environment and lack of physical presence meant that those who were perhaps shy in face-to-face settings were able to express themselves more freely. It was perceived by some as a form of entertainment, particularly social networking sites and those enabling access to video clips. It is seen by some to offer an escape from school and be a separate space:

"I think the main reason why I go on MSN is because it's not to do with school."
(Female, Year 10, low use)

Some learners reported having a webcam at home that served a dual purpose: to see how long-distance friends had changed, and to verify the identity of 'friends of friends'.

Collecting large numbers of friends in social networking sites and instant messaging tools was posited as an indicator of popularity, although many acknowledged that they did not know everyone listed personally.

"I have like nine hundred and something contacts and I only know about 300 of them."
(Female, Year 10, high)

On the other hand, the opportunity to meet new friends (friends of friends) was attractive to some. Meeting friends of friends online was generally viewed as acceptable, whereas meeting entirely new people online was viewed by most learners as dangerous. In contrast, one boy said that he had made many online friends through Runescape, and another said that sometimes when speaking to strangers it was easier to open up about things because you would never have to see them in real life. An online relationship begun over an online multi-player game was reported by one participant.

A number of learners categorised social networking sites as 'addictive', finding themselves compulsively checking their profiles for new comments and messages. On these sites, social relationships capital and cachet are quantified in a way that some learners found very appealing. Said one student, "It's like the giving people, like, loves on Bebo – some days I'm like I've only got two loves (laughs)..." (Female, Year 10, high)

Issues of security and safety online are important. Visible points are that there is significant traffic of messages from people “I don’t know” with 77 per cent of learners reporting receipt of messages through instant messaging and 66 per cent through email at some point. The levels of traffic from people learners do not know also differ between these media. Through instant messaging, 15 per cent report frequent and 20 per cent occasional contact. Email contact is a little lower (11 per cent frequently and 20 per cent occasionally) but this could be a reflection of different use patterns and does not necessarily take into account advertising spam. There is a general willingness amongst learners to reply to these approaches, although the likelihood of this is greater for instant messaging than for email. In the case of the latter, learners very rarely respond (32 per cent). However, on instant messaging, 59 per cent respond, 15 per cent stated they would frequently reply to unknown sources, 20 per cent occasionally and 24 per cent rarely. Thirty-one percent of learners reported having received an email from a person who seemed to be someone else (ie who adopted a persona, but not 'spam').

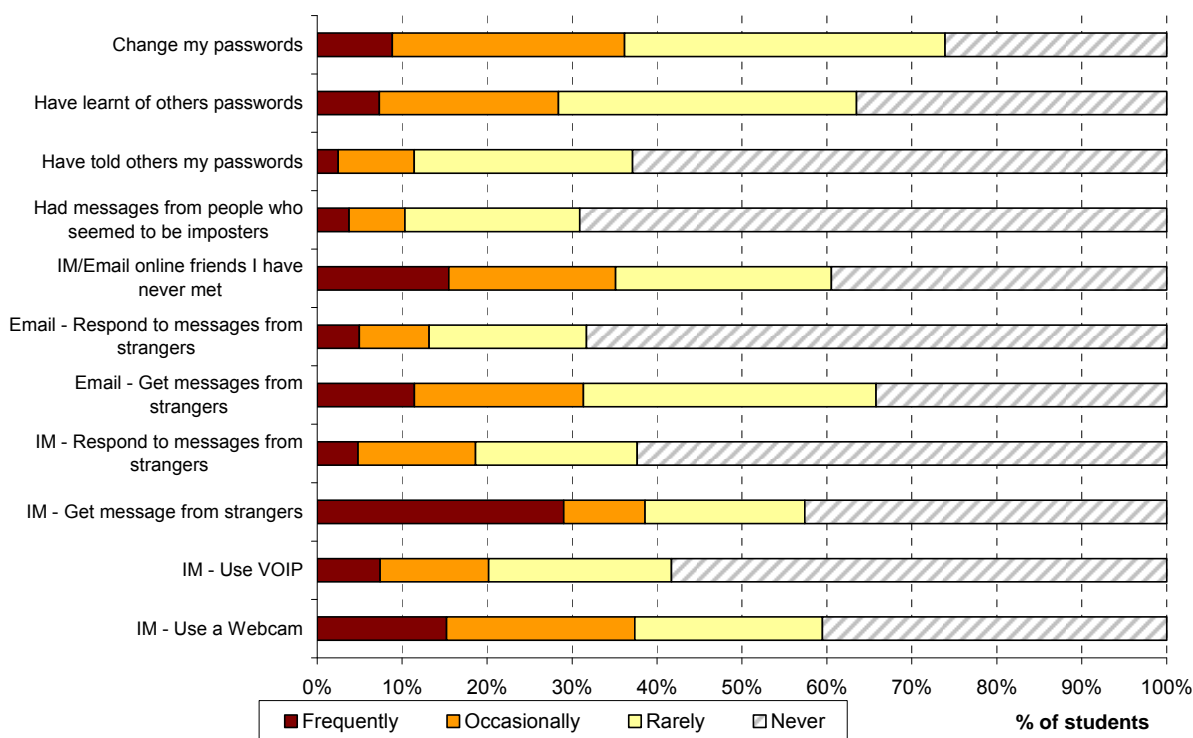


Figure 16: E-mail and instant messaging questions. Percentage of learners saying they have at some point experienced or done that, normative sample only.

On the issue of privacy and online safety (Figure 17), on the whole the number of respondents reporting disliking photos or text that others post about them is small. This does not seem to be an issue with social networking sites at this point.

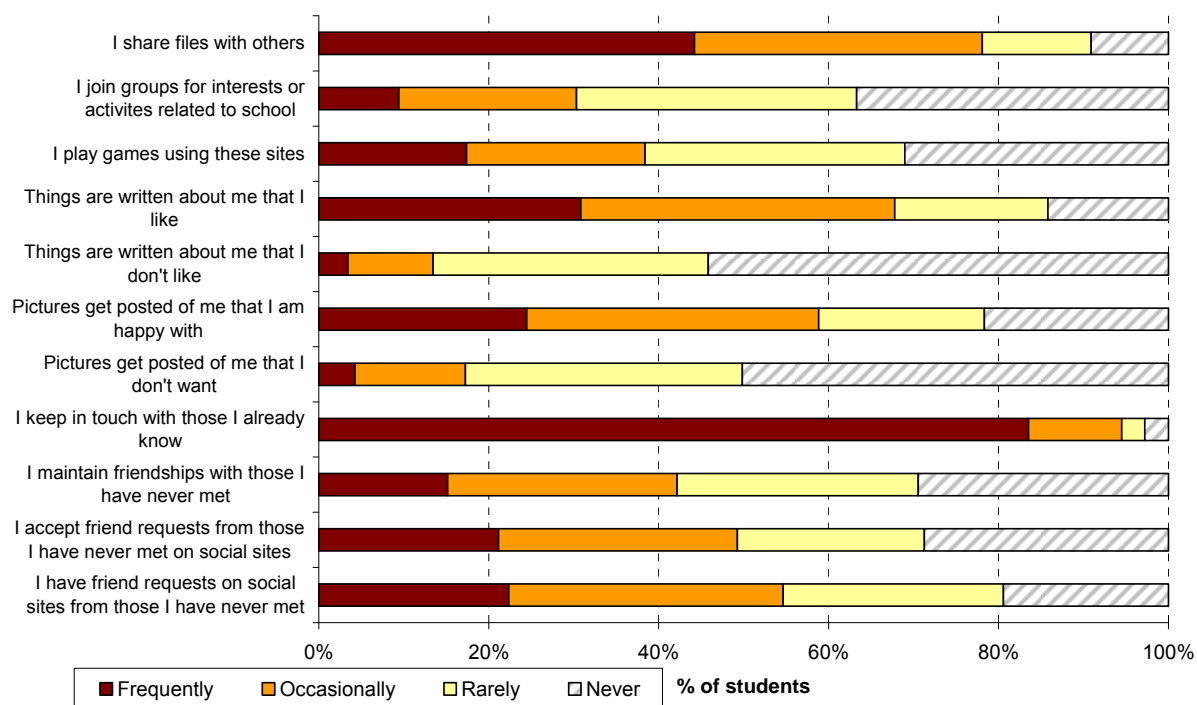


Figure 13: NS survey Question 7: Internet activity using social sites.

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Appendix 1: The empirical data set and methodology

The guided survey

This report presents and compares online survey data relating to adolescent pupils' ICT activity and, more particularly, their use of Web 2.0 technologies. This is derived from a total of over 2,600 Year 8 and Year 10 pupils in two groups of schools: a sample of 15 English schools selected to be representative of a range of school types and demographic variables referred to as the national sample, and a 'Web 2.0' sample of 12–15 schools selected to be representative of highly active ICT school environments in which Web 2.0 activity was flourishing. The national survey sample was recruited by inviting all 24 secondary schools that made up a national stratified random sample of secondary schools that had taken part in the ImpaCT2 Study (Becta, 2002), an investigation into the relationship between ICT and school attainment. Recruitment of the national sample schools began in August 2007 and was complete by mid-October, although despite considerable efforts to recruit across the range, the schools that agreed to participate were slightly higher on average in socio-economic status than may have been ideal. To compensate for this, three additional schools were recruited as substitutes, matched on geographical and demographic variables to three schools that had declined to take part.

Recruitment of schools to make up the 'Web 2.0' sample proved more challenging, for three reasons. First, it was initially reliant upon recommendation (electronic or word of mouth) for preliminary contact, and this turned out to lead to a number of false trails. Second, many recommendations did not lead to an invitation to participate because that school was associated with a single Web 2.0 project, focusing on hardware (iPod, mobile phones, PDA) or software (school blogs, a learning platform, or school Wikis), but with little or no discernable evidence of Web 2.0 activity being established in more than a single curriculum area. Schools where there were individual innovators but not whole-school activity were looked at separately, but not as part of the guided survey. Third, some very active Web 2.0 schools were already committed to working with other projects (including some funded by Becta), and were therefore unable to participate in this project.

Approximately 70 schools were investigated, and of these 14 schools were issued formal invitations to participate. Data from 1558 national sample participants and 1194 Web 2.0 school participants was collected using the online guided survey, and when responses from learners who indicated that they did not wish their data to go into the national sample was deleted (together with that from respondents who gave their year group as 'other' than was appropriate), the final sample used in the analyses presented below was 1510 cases for national sample participants and 1101 cases for the Web 2.0 schools. It is important to note that the Web 2.0 guided survey was designed with only a few questions that match the national sample schools survey, the emphasis being on each school's specific Web 2.0 activities. The questions that made up these surveys are included in Appendix 3.

All the survey data was gathered using the project's 'Guided Survey' technique, in which at least one team member was present in the classroom each time the survey was run. The survey was preceded by a PowerPoint presentation that took the learners through the format and structure of the online questionnaire, and the researcher encouraged whole-class discussion of the meaning of terms such as social networking, blog, Wiki and learning platform, before the questionnaires were filled in individually, with the researcher and class teacher supporting pupils who needed help or guidance until all the class had completed the final question. Learners were told not to worry about spelling, and spellings in free text boxes were subsequently normalised where appropriate in order to permit an accurate count of learners' use of tools such as Google and YouTube.

A strength of this dataset is that it is based on an almost comprehensive return of 2611 responses from the sample (3.4 per cent did not allow access to their data), and the guided survey approach has increased the reliability of the data. A weakness is that the sample is not as randomly extracted from the population as might be wished, although it is hoped the substitute schools will have helped to ensure a balanced and representative sample.

The focus group data

Sixty focus groups were held with approximately three hundred learners at a total of twenty-two schools. Group size ranged from a minimum of 2 to a maximum of 13, with 4–6 learners being usual. Thirty-six focus groups were held during school hours at national sample schools and twenty-four at Web 2.0-innovating schools. Focus groups were not held for KS4 learners at one national sample school because of lack of pupil interest, and no focus groups were held at two national sample schools due to lack of pupil interest. A stratified random sample of 24 focus groups was selected for analysis for this report: one group, either high or low, was randomly selected from each available year group at each available school.

Parental consent forms were made available to selected learners prior to the focus groups and signed forms were collected by researchers on the day. Learners were informed that their participation was completely voluntary and that only transcripts from discussions would be used. They were made to understand that their identities would be anonymised if extracts were used in any research report and that discussions would be kept confidential from their teachers, the school, parents, etc. Informally, they were asked to keep the contents of the discussion private within the group. Focus groups were designed to last around 25-30 minutes but some lasted as long as an hour. The resulting recordings were transcribed by professional transcribers.

Whenever possible, learners who had taken, or would take, the online guided survey were used in focus groups. Research contacts at each school were asked to select learners for participation in focus groups according to key stage, to divide the

learners from each key stage into two groups wherever possible: high Web 2.0-users and low Web 2.0-users. Researchers asked contacts to issue eight learner invitations per group. In six schools, this was not possible because of difficulties scheduling groups or obtaining signed consent forms, generally high levels of Web 2.0 use, or a lack of clarity on the contact's part about the level of Web 2.0 use amongst the learners.

Appendix 2: Gender differences in more detail

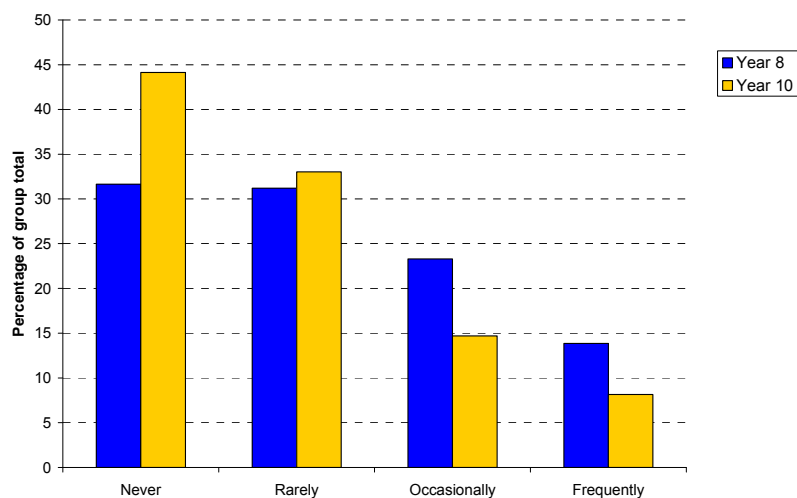


Figure 18: Reported difference in frequencies of use of voice over internet protocol (VoIP) technologies by students in Year 8 and Year 10 of national school sample.

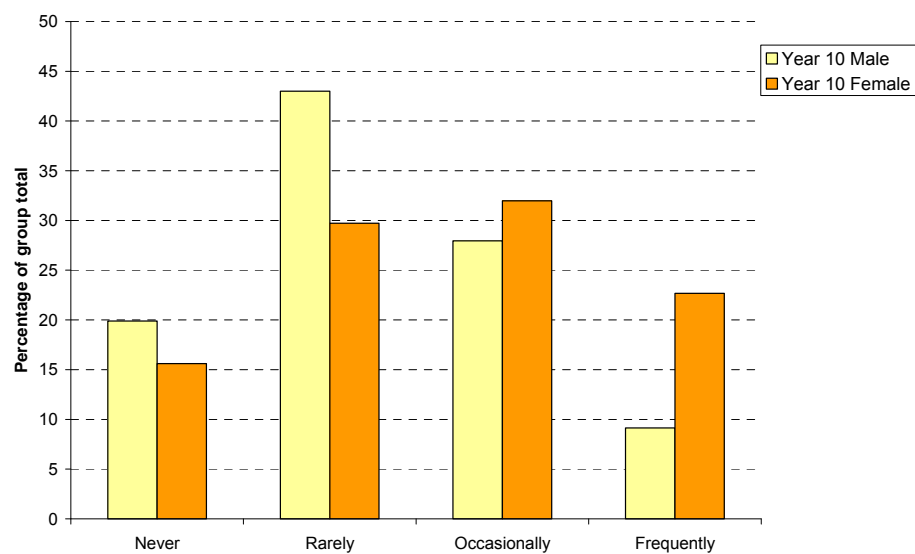
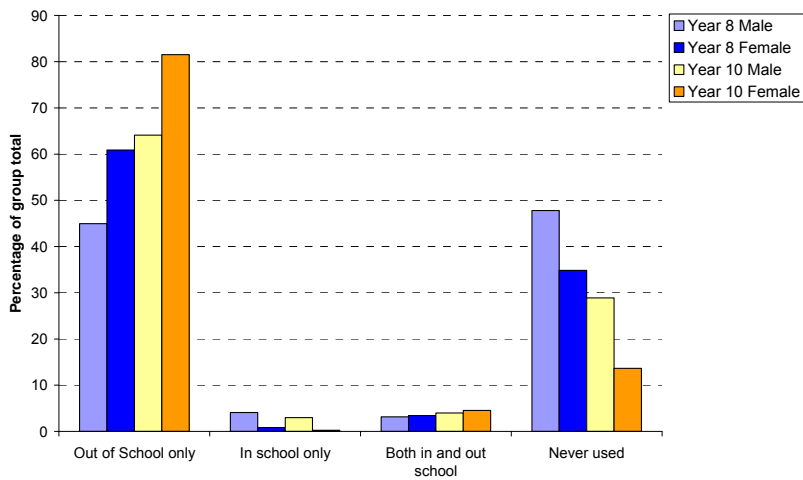
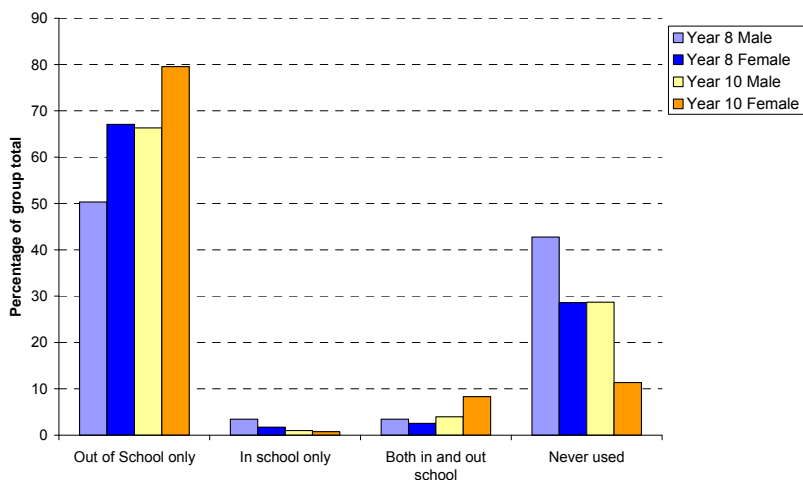


Figure 14: Reported frequencies of web camera use between boys and girls in Year 10 of national school sample



Commenting on someone else's files (NS only)

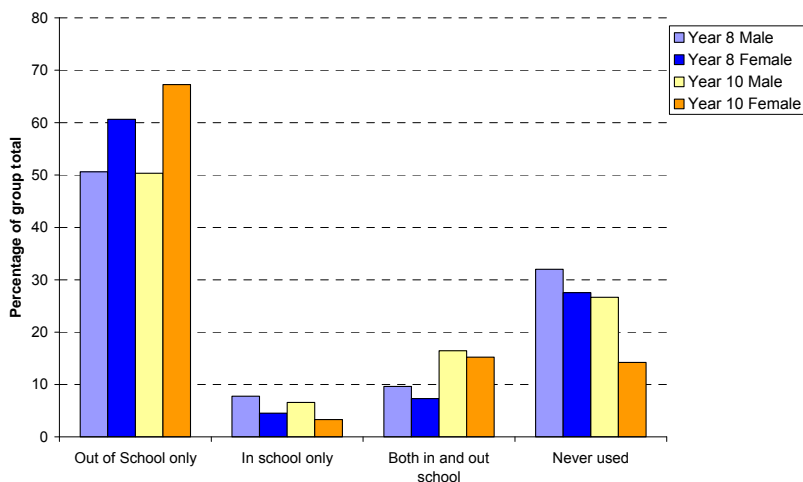
Girls are more likely to be doing these than males in both Year 8 (ChiSq = 25.788, df = 3, p<0.001) and Year 10 (ChiSq = 36.147, df = 3, p<0.001)



Uploading to share photos (NS only)

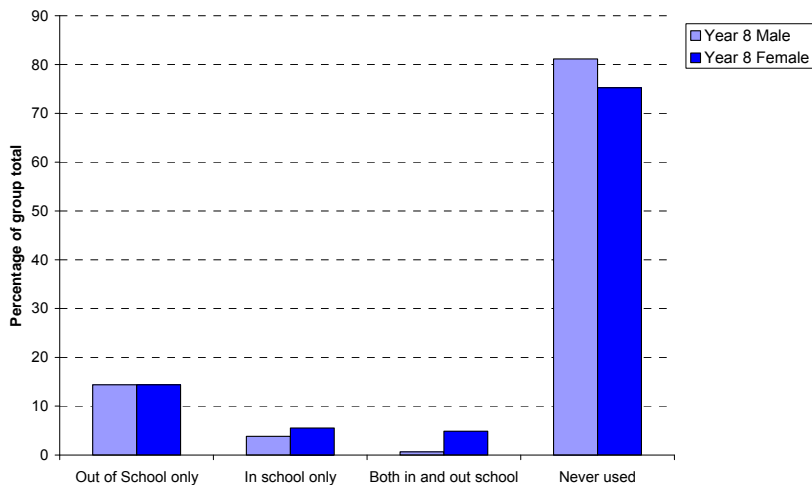
Girls in both Year 8 (67.1%) and year 10 (79.5%) share photos more than boys (50.3% in Year 8 (ChiSq=22.702, df=3, p<0.001) and 66.3% in Year 10 (ChiSq=33.094, df=3, p<0.001))

It is notable as well that students generally in Year 10 share photos more but the proportions between the genders remains the same.



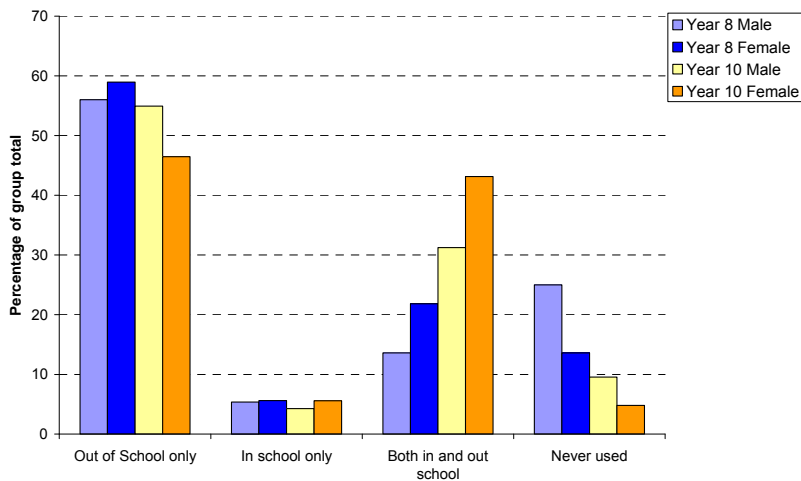
Edit a photo (NS only)

In both years girls do more editing of photos than boys out of school, but boys do slightly more editing in school (Year 8 : ChiSq=9.339, df=3, p=0.25, Year 10: ChiSq= 24.460, df=3, p<0.001)



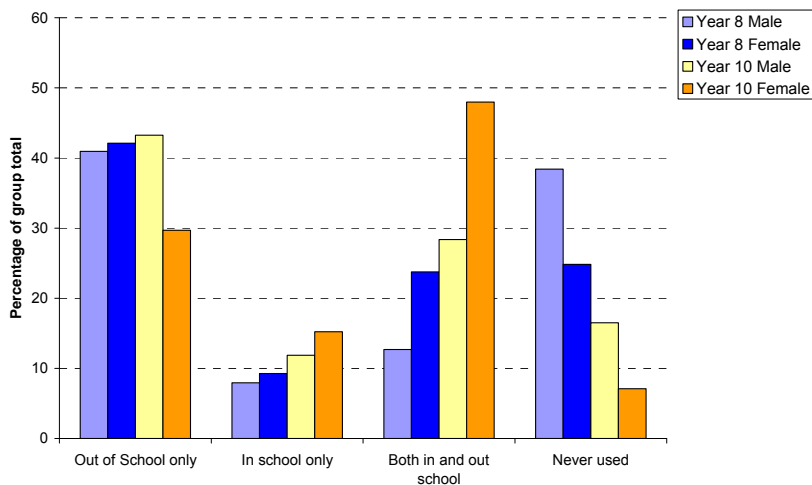
Editing a wiki (NS only)

A significant difference was noted only between the genders in Year 8 with both sexes equal out of school (14.4%), but girls more likely to have edited a wiki in school (10.4% vs 4.4%) (ChiSq=12.478, df=3, p=0.006)



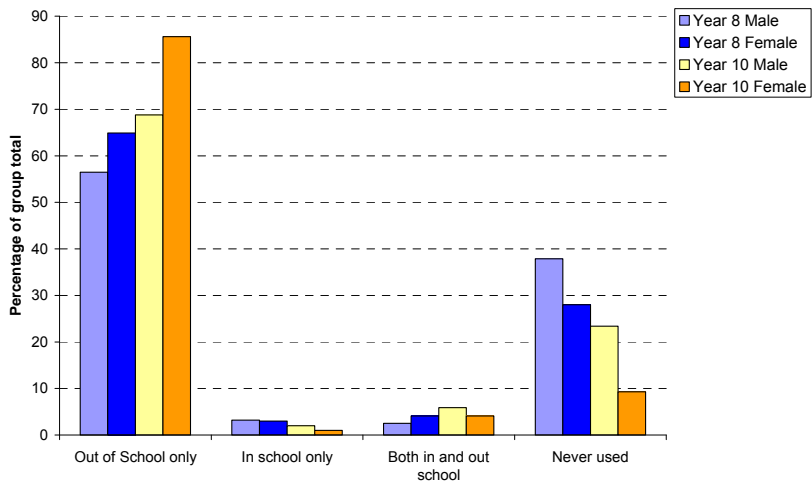
Sending email from own account (NS only)

In Year 8, girls are more likely to be sending email both from home and school (ChiSq=20.519, df=3, p<0.001), but in Year 10 the proportion of girls using email only at home reduces with a corresponding increase in amount of use at school. Boys also show a similar change, but the proportion using at home only remains the same, but increases with in and out of school use in Year 10 (ChiSq=15.489,df=3, p=0.001).



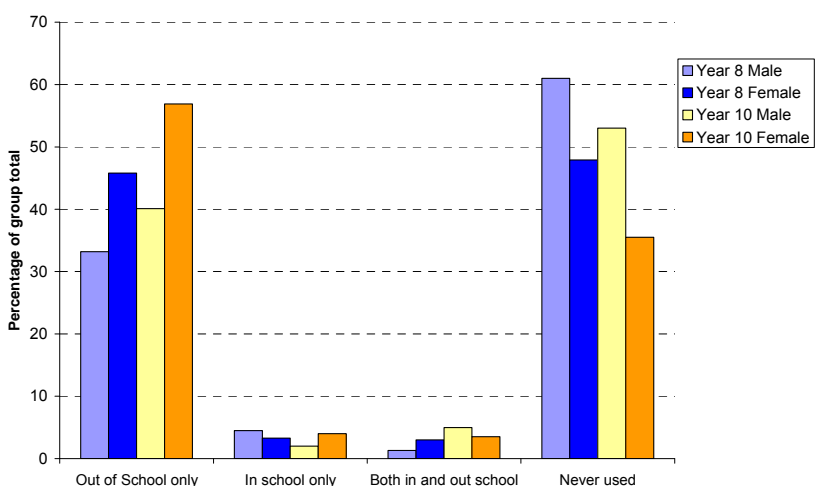
Sending an email attachment (NS only)

In both Year 8 and 10 girls are more likely to have sent an attachment (ChiSq = 23.733, df=3, p<0.001), but in Year 10 girls also are more likely to have sent from school than boys and less likely to have sent from home only reflecting general email usage (ChiSq = 42.319, df = 3, p<0.001).



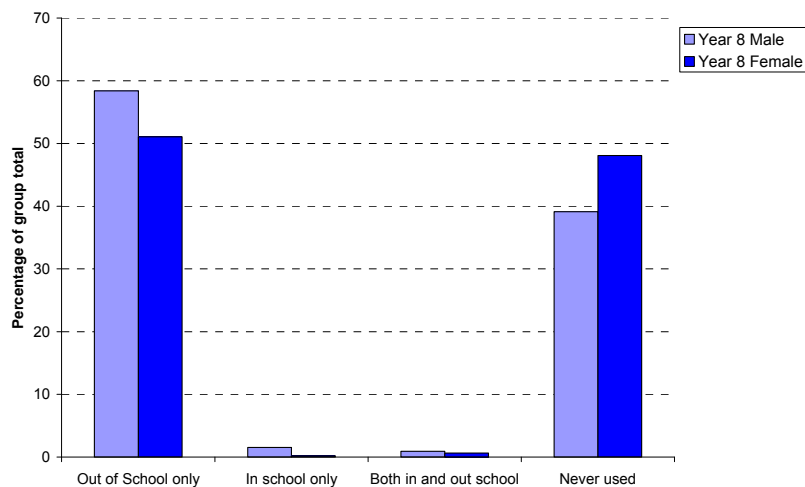
Writing a personal profile on a social network site (NS only)

Girls in both Year 8 and 10 are more likely to have a personal than boys (Year 8: ChiSq=9.325, df=3, p=0.025, Year 10: ChiSq=26.632, df=3, p<0.001)



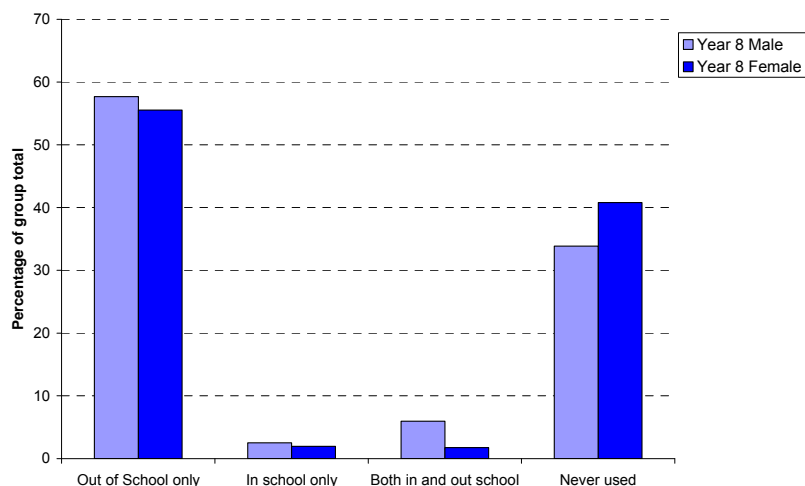
Writing a blog (NS only)

Girls in both Year 8 and 10 are more likely to have written a blog than boys (Year 8: ChiSq=16.421, df=3, p=0.001, Year 10: ChiSq=22.002, df=3, p<0.001)



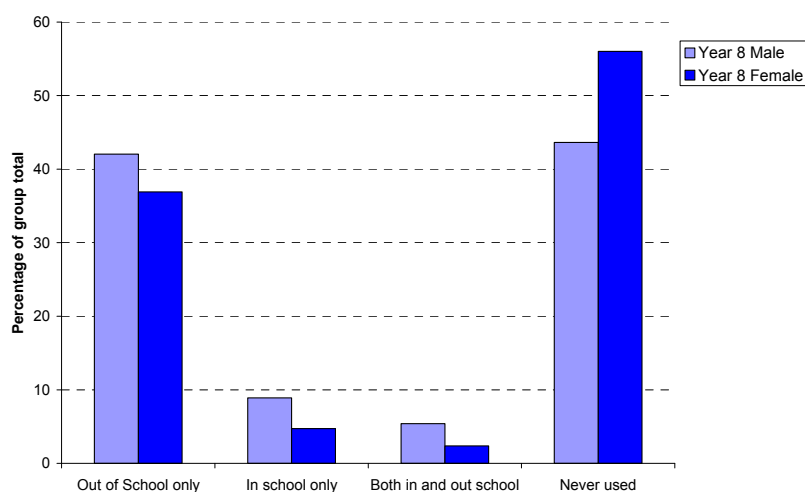
Shopping Online (NS only)

There is a high proportion of students who have shopped online (58-51% in Year 8 with boys more likely to have done so than girls. The number of students who have shopped online by Year 10 increases to 74-67%, but the difference between the genders is not significant



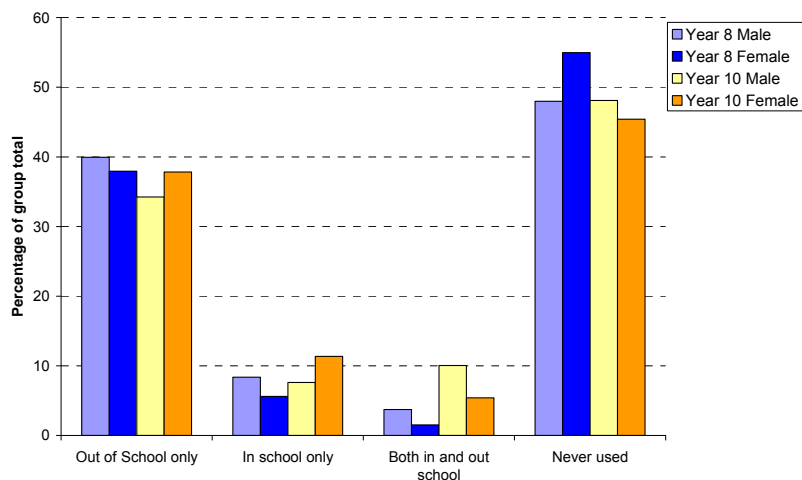
Downloading to Save: Video (NS only)

Boys in Year 8 are significantly more likely to download to save video both out of school and within school (ChiSq=12.507, df = 3, p = 0.006). There was not significant differences between the genders in Year 10.



Editing video (NS only)

In Year 8 also boys are more likely than females to have edited video, particularly in school (boys in school=14.3%, girls=7.1%) (ChiSq= 16.924, df=3, p=001)



Editing audio (NS only)

There is a change across the year groups with boys being slightly more prevalent than girls in editing audio in Year 8 (ChiSq=7.961, df=3, p=0.047) and then girls editing audio more in Year 10 (ChiSq=7.868, df=3, p=0.049)