KS3 and KS4 learners' use of Web 2.0 technologies in and out of school - Summary

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Introduction

This is a summary of 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 has a focus 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**. As illustrated in Figure 1, 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 multiplayer 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.
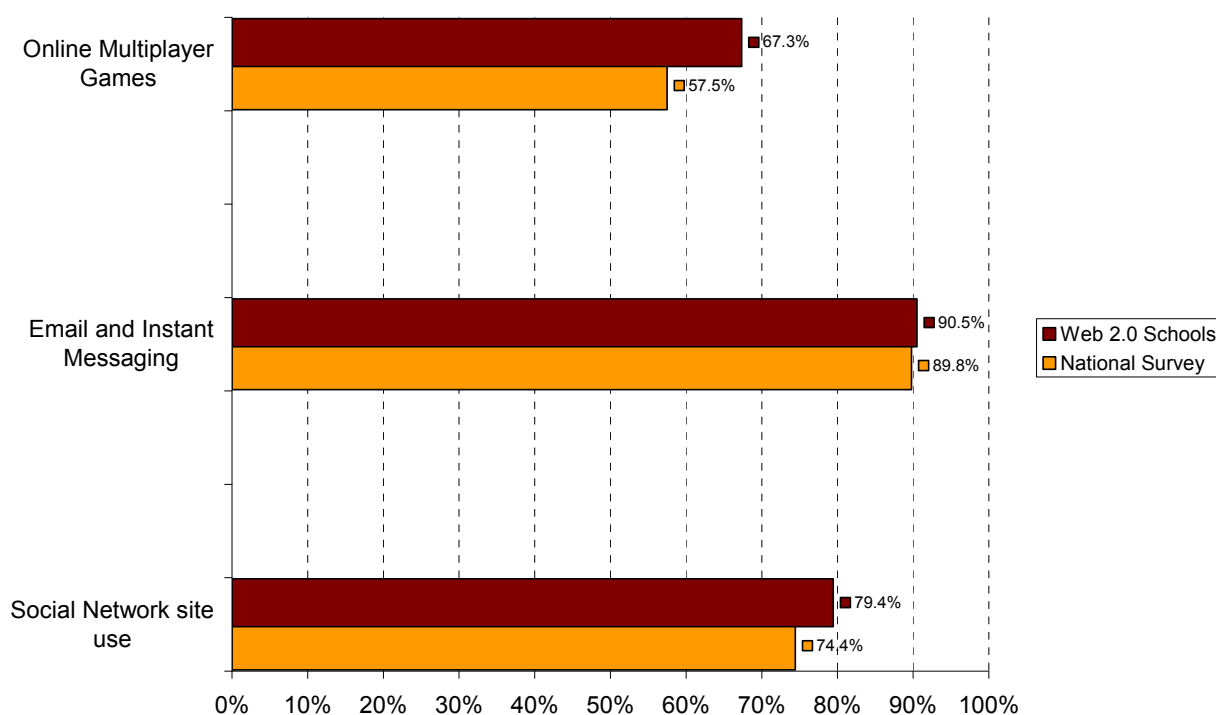

Figure 1: Usage of web technologies out of school by learners at Web 2.0 schools and national sample.

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 **artefact sharing** (through uploading either pictures, video and/or music) with **photographs the most common product being shared**. Posting one's own videos, voice communication using VoIP and communication via a webcam are less common. See Figures 2, 3 and 7
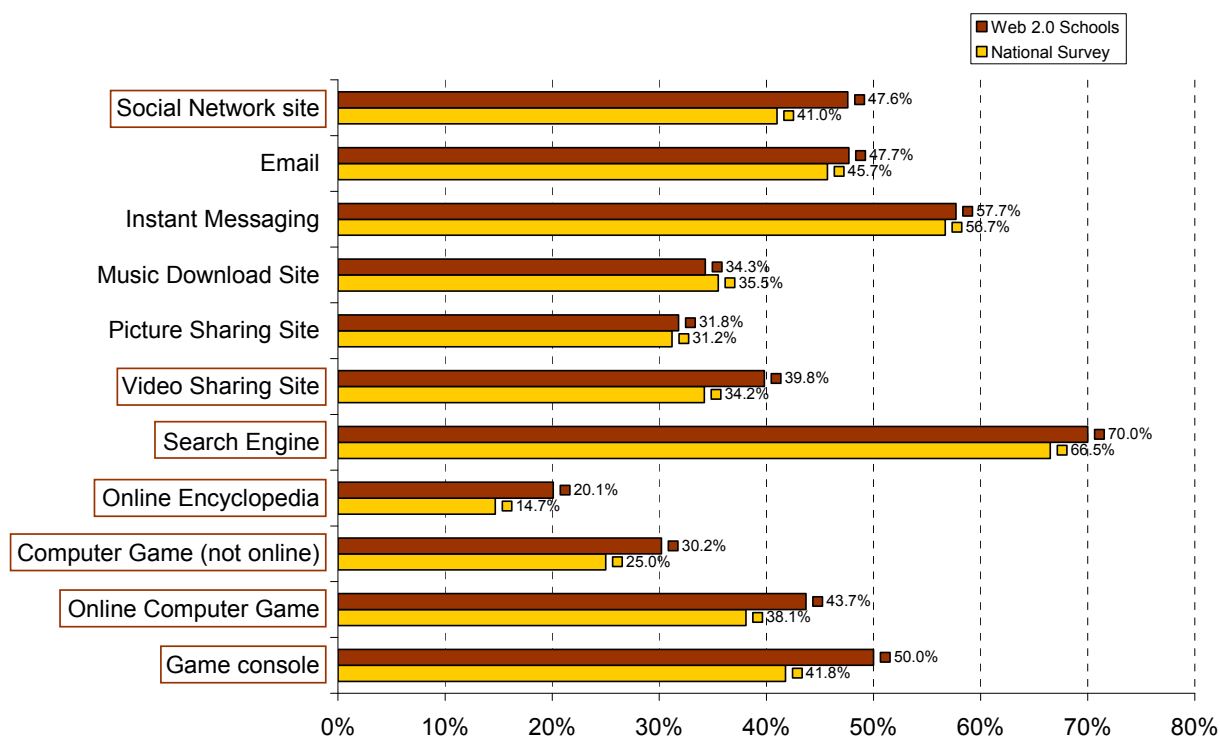

Figure 2: Percentage of learners in Web 2.0 schools and national sample who reported having used named technology in the last 24 hours (Technologies outlined by a box are significantly higher in Web 2.0 schools)

The **primary** motivation for engaging with social networking sites **is interacting with one's existing social network**.
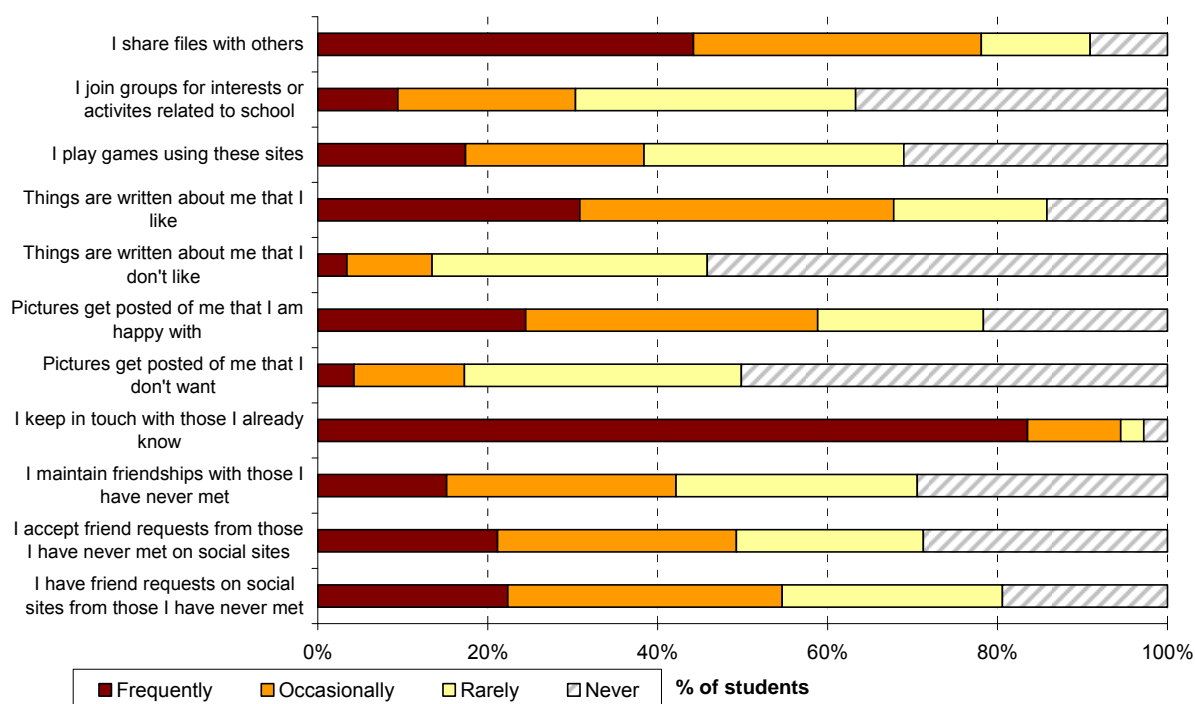
Figure 3: NS survey Question 7: Internet activity using social sites. Percent of learners in normative sample only ticking occasionally or frequently

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. Figures 3 and 4 illustrate the kinds of activity being conducted by learners on social networking sites and via email and instant messaging. 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 messaging 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.
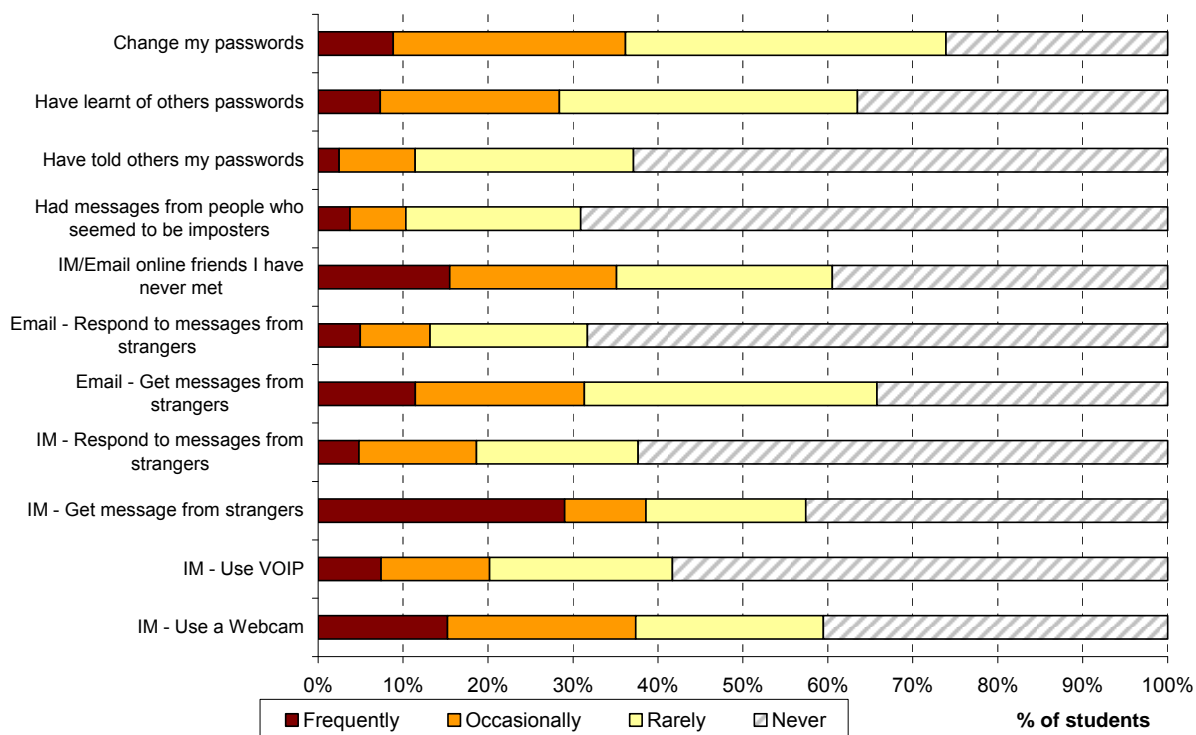
Figure 4: E-mail and instant messaging questions. Percent of learners in normative sample only saying they have at some point experienced or done that.

Age and gender are factors in the types of Web 2.0 activity learners engage in (see Figure 5). 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.
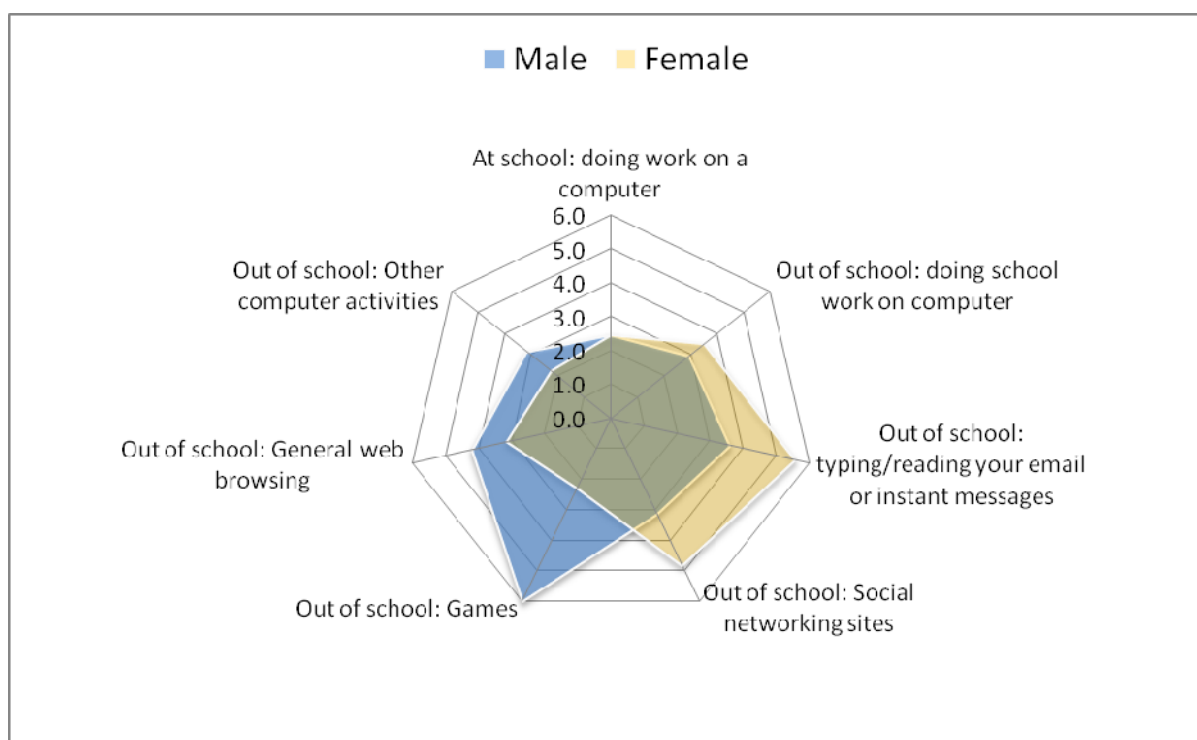
Figure 5: Chart showing average time in hours spent each week by gender on selected computer related activities. All values except time spent in school using computer for school work are significantly different between genders, normative sample only.

Types of Web 2.0 User

The types of activity evidenced suggest that of the categories of user identified in the literature, there are r**eaders, 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 self-created 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 Web2.0 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

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 (as illustrated in Table 1). **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.

Site	National Schools sample	Web 2.0 Sample
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 1: 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 either being promoted by teachers or peers.

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. 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, concerned about the dangers, lacked knowledge and that they preferred face-to-face communications.
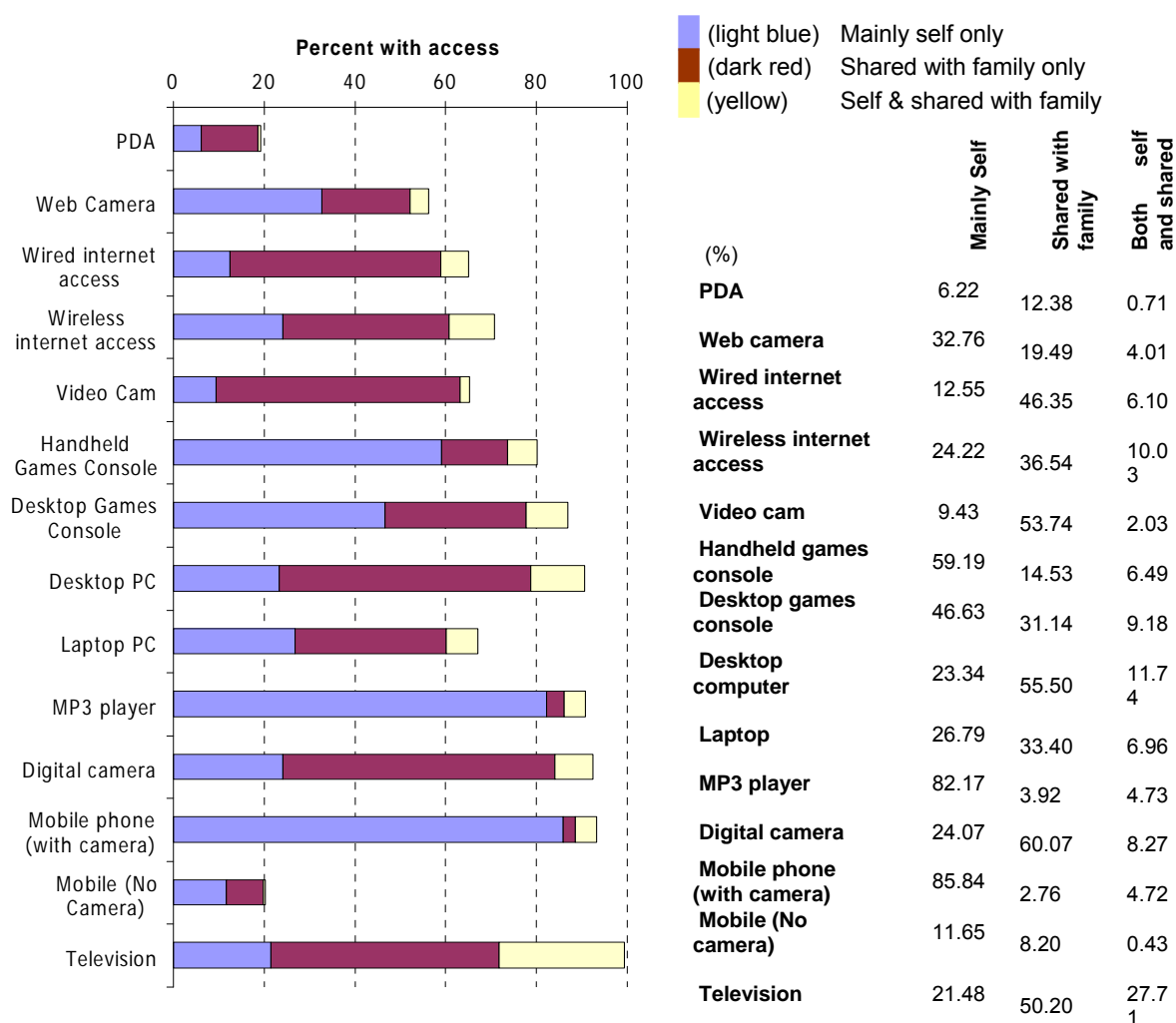
Web 2.0 Technologies in School and out of School

Percent with access

	(light blue)	Mainly self only
	(dark red)	Shared with family only
	(yellow)	Self & shared with family

(%)	Mainly Self	Shared with family	Both self and shared
PDA	6.22	12.38	0.71
Web camera	32.76	19.49	4.01
Wired internet access	12.55	46.35	6.10
Wireless internet access	24.22	36.54	10.03
Video cam	9.43	53.74	2.03
Handheld games console	59.19	14.53	6.49
Desktop games console	46.63	31.14	9.18
Desktop computer	23.34	55.50	11.74
Laptop	26.79	33.40	6.96
MP3 player	82.17	3.92	4.73
Digital camera	24.07	60.07	8.27
Mobile phone (with camera)	85.84	2.76	4.72
Mobile (No camera)	11.65	8.20	0.43
Television	21.48	50.20	27.71

Figure 6: Learners reported access to technology at home and at school (Data only available for national sample)

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 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, **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. Figure 6 illustrates access to technology amongst the national sample of learners.

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**. Figure 7 illustrates Web 2.0 activities amongst learners, and differentiates between the use in and out of school.
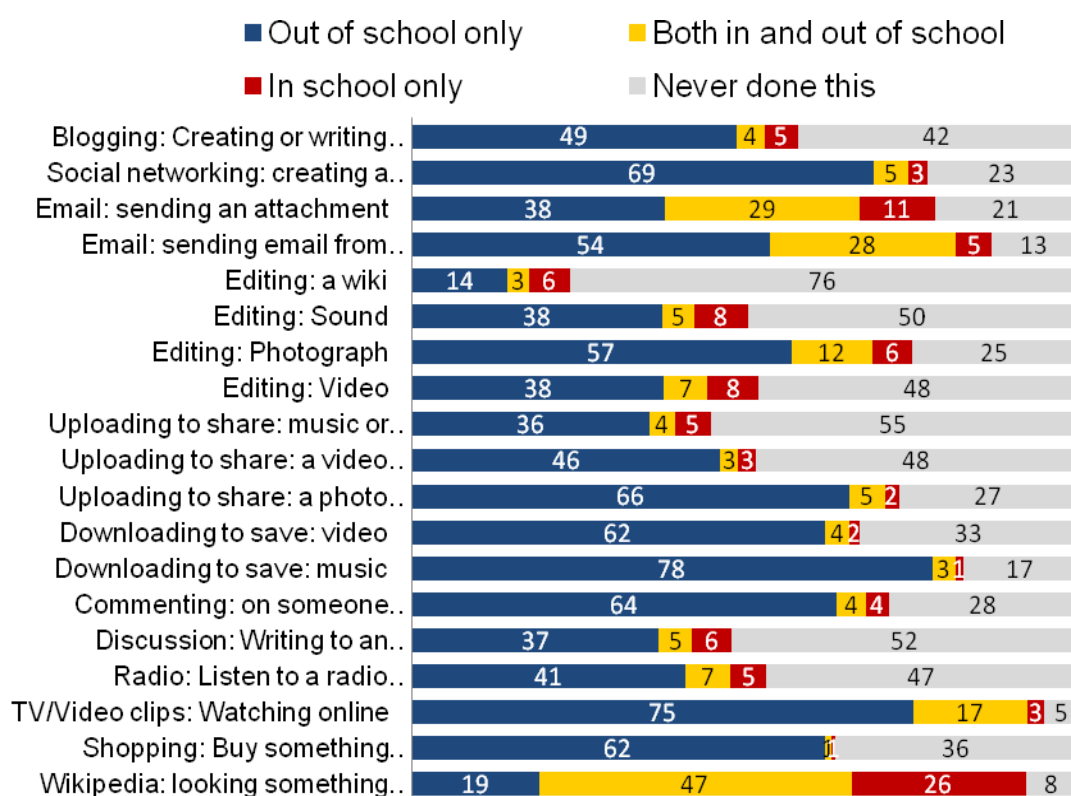

Figure 7: Learners use of related Web 2.0 activities in and out of school (note that any totals need to include "both in and out of school" as these learners indicated that they had carried out this activity in both locations)

Learners spend, on average, more time working on school work on a computer outside of 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 very differently between in school and out of school**. 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**, learners acknowledge that inappropriate behaviour needs to be prevented, but 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 both learning 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 fulfil their potential, feel valued, and have their achievements recognised and celebrated, as advocated by both the Gilbert review and the Children's Plan, then **learners need to be offered appropriate ways in which to build on their enthusiasm and the fledgling technology skills they gain out of school**.

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 Web2.0 applications to support learning wherever they are. This approach could also support skill acquisition post-16 and the requirements of the Leitch implementation plan. Schools might also take more 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.

Resources

The full version on this report and other outputs from the project are available here: http://partners.becta.org.uk/index.php?section=rh&catcode=_re_rp_02&rid=14543.