



ICT Test Bed Survey Data

Abbreviated Summary of Findings

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The Changing Picture

The following summary of the 2005 baseline surveys of students, parents and staff within the 31 ICT Test Bed institutions shows an encouraging spread of skills throughout schools and colleges and into the homes of students. An ICT competent society is visibly growing under the auspice of ICT Test Bed. However, this spread of skills and usage has limits and it is focused on the Internet and on push technologies out from the teacher to the pupil and from the school to the home. Innovative personalised learning is not the norm, although a level of change was apparent among secondary pupils. The interactive home school links that many see as vital to a learning society are not established as yet, although the provision of resources into the home in the form of laptops and other devices has been actioned by many schools.

Methodological Note

The data reported here are drawn from a frequency analysis of the questionnaires that were administered in all thirty one ICT Test Bed institutions between April and June 2005. Data collection began in October 2002 and has been conducted on an annual basis since then, making this the third occasion that these data have been collected. The questionnaire format and sampling strategy have remained constant since the start of the project; however, the method of administration has been altered so that the majority of the questionnaires were completed online this year.

Data from KS1 and KS2 Student Questionnaires: Summary

The sample obtained was comprehensive for each of the questionnaires, with a total sample of 1764 children completing the questionnaires drawn from each of the primary year groups (reception up to year six). Although this is a decrease of 25% from the high level of return in 2004, the distribution across the years was satisfactory. We are pleased to report that all but two of the schools with KS1 students completed the online questionnaire, which attests to their growing confidence of the skills of these pupils.

The data from the KS1 student questionnaires demonstrated that children held very positive attitudes to ICT use both at school and in the home environment. The majority of KS1 students (85%) indicated a preference for lessons in which ICT is used over those that do not have some element of ICT incorporated. In the main, the findings from the KS1 special school mirrored the findings from the KS1 mainstream schools.

The KS2 children reported a moderate enthusiasm towards school and completing their schoolwork but became more positive when asked about their computing competencies and abilities. The vast majority (circa 90%) of children across all ages reported high levels of ICT competency, supported by the reported ease with which they found operating a computer and its related activities. This is again reflected in the high level of online response to our survey.

The frequency of ICT use at school varied across the sample. Use of the Internet in school increased for KS1 and KS2 in 2005 for the main and special school samples (by around 27% for KS1 and 10% for KS2), though levels were lower in the KS1 special school sample. For all KS2 samples Internet use was main focus of ICT in school. Home Internet use by the KS2 samples was lower, possibly influenced by issues of access and concerns over Internet safety. Interestingly home use of all ICT applications was far less than for school use for the special than the mainstream school KS2 pupils, as in the findings from 2004. There remained in 2005 a significant positive correlation between levels of home and school use for some applications in the KS2 samples.

Questions relating to home/school links still demonstrated emerging rather than established opportunities, particularly in the special school sample, although they have notably increased from those recorded in 2004. The strength of the pupil teacher relationship was manifested in the help seeking behaviour of these children. Pupils overwhelmingly thought that teachers were best placed to offer assistance for their computer activities compared to other staff, friends or other pupils. Help available in the home was also more prevalent than in 2004. Pupils argued that any perceived shortage was not due to a lack of skills in the home but a shortage of time on the part of putative helper. This is an indication of ICT skills permeating through the home environment. Help at school was unsurprisingly more readily available to KS2 special school pupils than to the main sample, whilst help at home was more readily available to the main sample. This reflected the higher home ICT use by mainstream compared to special needs pupils. Generally pupils' perceptions of the help available to them at school and at home were more positive than in 2004.

The most frequently reported uses of ICT in lessons were the expository mode of teaching and as a resource base on which the teacher and pupils may draw, such as using the Internet to search for material. Whilst the pupils expressed positive attitudes to such traditional teaching structures there is a concern here that shift towards more student orientated learning environments may still be some distance off. The use of ICT tools, such as electronic whiteboards, had increased from 2004 in both KS2 samples. For the special school pupils, however, use of this tool was still largely by the teacher for demonstration. In the main school sample, use of the electronic whiteboard, or equivalent, by pupils to present their work had increased – such an increase was not apparent in the special school sample. The use of ICT by KS1 children has also increased significantly over the three year period, with key uses such as for typing and drawing at near ceiling levels of use. The largest of these increases has been between years 2004 and 2005.

Second Year Data from Secondary and FE Students: Summary

Our total sample for 2005 for the secondary student questionnaire was 660, drawn representatively from each of the secondary year groups although fewer returns were made by year eleven and the sixth form years than in 2004. For the FE students, 232 responses were obtained from each of the three ICT Test Bed colleges. As with last year, this is a disappointingly low return.

Both school and college students indicated generally positive attitudes towards attending their respective institutions and completing their work. For the secondary students, the number of students reporting that they 'always' enjoyed school had doubled from 2004 to 34%.

In 2004 we found that the student's ICT skills had significantly increased from 2003, and the data from 2005 suggests that such skill levels have now reached a plateau, with similar findings this year to the 2004 figures. Students in 2005 reported quite extensive experience of using ICT and were quite confident about passing their skills onto others. Whilst there were still a few students within both samples (circa 8%?) who had either never used a computer before or needed help, the vast majority reported having few difficulties with the technology. Of particular interest, however, was the finding that in 2005 the FE students were less confident about their own technical skills. This decrease might be due to the changing sample or we might argue that it is attributable to the fact that students are now using the computers to complete more complex tasks and so whilst usage has increased, so has the expectation of their own capabilities.

Reported enjoyment when using computers for school or college work was high for both student groups (around 90%) and the secondary students' in particular demonstrated increased enjoyment from 2003 and 2004 levels. One of the biggest changes in 2005 was in the increased number of students reporting that computers were more beneficial than using books to locate research for their work, whereas in the first year of the project (2003) both student groups had reported a more even balance of locating research both on the Internet and in books. This finding is strengthened by the secondary students' reports of where they access computers and the frequency with which they do so, with daily school and home use having both increased this year. It was surprising to find however that daily ICT use at college in 2005 had declined from 2004, whilst daily use at home had increased this year.

As was the case in 2004, and also for the KS2 children, the use of a computer to access the Internet was the primary use in school for the secondary students, and this year had also become the main use of a computer at home with a substantial increase in daily home Internet being recorded (an increase of 20%, to 55% in 2005). Whilst the more basic tools such as word processing and spreadsheet use have seemingly been replaced in terms of their popularity at school, it is still clear that they are key applications. Small increases in use for the secondary students were also found for use of the VLE, digital cameras and video conferencing. The FE students demonstrated similar patterns of usage, with increases found in the frequency with which most of the applications were used. Use of the Internet at home and college was the dominant application, followed by use of E-mail. Unsurprisingly, significant relationships were found between use of applications at home and at college, with the exception of the use of E-mail where no relationship was found between home and college use. The figures for daily E-mail use at home and at college were 55% and 20% respectively. It would be interesting to know whether the low usage in the college setting is a matter of access, policy or choice.

Both sets of students increasingly report that the hardware and software within school or college is sufficient to meet their needs. However, schools and colleges are not seen to be providing support for ICT in the home environment. Outside access, from the home and other environments such as the public library, to institutional websites was the one facility available to students but this push technology was not matched by two-way interactions.

The level of help at home in using computers was encouraging in 2005 for the secondary and FE students. In 2004, the majority of secondary students reported that there was someone who could help at home, but that they were usually busy; whilst a third of FE students claimed there was usually someone available who could help them. In 2005, however, the most frequent response for secondary students was that there was usually someone who could help at home, with substantial decreases in those reporting that no help was available to them. This is very encouraging and is perhaps indicative of the success of school and college based training courses being provided for parents. When this same question was asked of help available at college and school, both student groups considered that their tutors/teachers were best placed to provide assistance. For the secondary pupils, friends were the second source of in school help, followed by other adults. For the FE students, technicians were the considered the second option, followed by friends. These findings are in direct contrast to the 2004 data where secondary school responses were more evenly divided between teachers and friends help and FE students where friends were considered the second best option, followed by technicians.

In terms of Internet use, the main barriers for both groups were access issues in terms of the cost of computer hardware and software as well as Internet access at home. Time

constraints and the students' own computer skills were lesser concerns, although all possible sources of concern were rated much lower by the secondary than the FE respondents.

Both sets of students were asked about the use of ICT in the classroom. Differences between the groups' responses were noted, including a decrease in the use of email/discussion boards to discuss work outside of the classroom for FE students, whilst being on the increase for the secondary students, and that one of the greatest uses in the secondary classroom was for students to present work to classmates using ICT, whilst for FE students one of the main uses is for teachers to use ICT to demonstrate and model work for the students. One possible explanation for these differences could be that the FE students are expected to be more autonomous in their work and their lessons are less structured. However it was also noticeable that college use of ICT included more attempts at expository teaching than the secondary schools, alongside the more independent uses in class and projects. The greatest increases in use for the FE students was in completing project work using the computer, whereas in 2004 the greatest increase was in presenting work through ICT. The differences noted for the secondary students were promising, indicating that schools are developing a more cross-curricular integration of ICT, and an increase in more student centred use of ICT within the lessons.

Data from Parents: Summary

The return rate for parental questionnaires in 2005 was disappointing, only 725 responses were received, of which the majority were from parents of children attending primary schools (75%). The responses were drawn from parents across each of the primary and secondary year groups, although some year groups such as years twelve and thirteen are under-represented.

In terms of the schools making contact with home, they were judged to be best at sending letters home with pupils, followed by telephoning. Emailing and providing access to progress reports on the web were the least used options, though both of these have increased from levels recorded in 2004. Parents overall seemed satisfied by the schools' efforts to keep them informed and the order of the methods of contact remained unchanged in 2005.

Self reported awareness of the computing facilities available at school was high. Although nineteen per cent of parents had never looked round the facilities available, many parents were taking opportunities to view facilities, with the largest number of respondents stating they had exercised this option within this school year. As a result most parents reported the facilities as either good, or very good.

Parents tended to be satisfied with the schools' efforts to keep them informed. The most common method of schools contacting parents was by sending a letter home with the child, as was the case in the previous year's analysis. Parental awareness of the ICT facilities available in school was high, with a majority considering the facilities to be either 'good' or 'very good'.

Most homes had some level of computing facility, and the percentage of parents indicating that they had a computer at home had increased steadily over the course of the three years from 79% in 2003, to 85% in 2004 and 92% in 2005. A large number (90%) of parents possessed either a desktop or laptop computer and a printer and at least half of the homes also had Internet access and a games console. Technologies such as web cams were found less frequently. The location of the facilities in the home was split

between public spaces (living room) and more private spaces (a bedroom). Interestingly there was a definite trend for parents to make more use of computers in the living room, and for children to use computers in bedrooms. Whilst this trend was apparent in 2003, it had become more apparent in 2004 due to the general increase in levels of computer use, and had remained so in 2005.

A degree of monitoring was reported by the parents of their child's use of the computer at home, with very few parents stating that they did not monitor their child's home use of a computer. There is an inverse relationship between monitoring and concern over home computer use. Those parents who have chosen to monitor, or be involved in their child's computer use, express few concerns over that computer use. It is the parents who do not monitor, possibly because they lack technical skills, who express concerns about the impact of the technology on their children. There is clearly need for support of these parents to allay their fears. For those parents that did express some degree of concern, their major concern was the websites that children were browsing, followed by the amount of time that the children spent using a computer.

Parental knowledge of ICT was mixed, although competency levels have increased this year. Self-reports showed competence varied from very ICT competent parents to those parents who had not used a computer before and those who had not used a computer before felt in the main that it was important for them to learn. The most frequent parental use of a computer was found to be either at home or in the workplace for word processing, surfing the Internet and for emailing. Cost and time were both cited as barriers to Internet use. The largest category of response to the type of help parents could/did offer was that they encourage and support their child in using a number of programs. This was followed by a slightly different approach to support, in parents encouraging more independent work. In this sense parents claimed that they tended to encourage their child to use the computer on their own. Making Internet access cheaper or free would encourage more parents to use the Internet more often, as would having more free time.

Data from Staff Questionnaires: Summary

The findings from the Primary, Secondary and FE staff questionnaires were on the whole positive with staff generally reporting high levels of access to equipment and confidence in its use. Confidence levels using ICT were high for staff from all three sectors and perceived skill levels had increased over the course of the previous twelve months and indeed over the three years of data collection. This was particularly the case for the primary staff and whilst FE teaching staff felt that their skills had increased over the past twelve months, the support staff working in FE were less convinced.

Access to ICT was largely in the home or school for both school support staff and teaching staff. Daily use was much higher amongst primary and secondary teachers than support staff, at school and at home. In the colleges, daily ICT activity had increased with 100% of support staff and 96% of teaching staff using college ICT facilities. Levels of ICT hardware and software were adequate to meet the needs of all teaching and support staff and this year's primary and secondary teaching and support staff competencies peaked for word processing and using communication software such as the Internet and email. Staff knowledge and use of peripherals and presentation packages and equipment had also increased in 2005. Informal training, such as help from a friend or colleague, formed a large part of the training received by staff. This was particularly true for the support staff. More formal training was less in evidence, and whilst training had increased in 2005, particularly for the teachers, minimal training had been provided for authoring software, content management software (VLE's) and MIS. Laptop provision was much higher than

provision of a desktop computer for home use, both for support and teaching staff, although there was a bias towards teaching staff and provision of such equipment had decreased in 2005 from previous years. Half to three quarters of all primary and secondary teachers and support staff were usually able to access help when using ICT within the institution, with help at home being less frequently available.

Much of the time of the teaching staff was unsurprisingly allocated to working directly with students, supporting learning and other forms of student contact. Teaching staff were more likely to state that they would like to reduce their hours, and that they would like to concentrate more on teaching and learning over clerical and administrative work. Teachers from both school sectors were more likely than the support staff to report having to do things which they felt were not part of their job, a reversal of the 2004 finding. Overall time spent in those activities, which incorporated some component of ICT, had reportedly decreased from 2004 with teachers in schools allocating more time to these activities than teachers in FE. The main uses of ICT in teaching were reported by primary and secondary school teachers as using ICT to engage the class in discussion, explanation and demonstration using ICT. For the FE staff,

ICT was used predominantly to present information and prepare resources. Teachers from all sectors also reported an increase from 2004 in the use of the Internet and email in class time, either within or outside the classroom. This also demonstrates that whilst the teachers themselves are currently still the main source of expertise, pupils are now more likely to be encouraged to access information and expertise outside the classroom and collaborate virtually, as well as in person. ICT as a motivator for students' learning attracted high positive responses from staff from both school sectors and the FE sector (over 90%). Collaboration between, and support for, staff was more prevalent in primary schools than secondary. Primary teachers and support staff both were more positive towards joint planning between teachers and learning/classroom assistants than the secondary staff were.

¹The section of the questionnaire pertaining to staff attitudes towards their respective institutions revealed mixed findings. In terms of staff quality of life and views on leadership and management staff responses were quite high for both sectors and staff types, although support staff tended to respond more positively than the teachers. Staff views on the schools and colleges as organisations were also encouraging; with staff generally indicating satisfaction with the direction and leadership of the school or college.

The response to the change and development initiatives of the institutions had improved from 2004, especially for the FE support staff, and the most positive response was for their college having a strong culture of improvement. It should, however, also be noted that the approach to managing change was not always satisfactory, with 50% of FE teaching staff, 43% of secondary support staff and 38% of secondary teaching staff considering their institutions methods of managing change to be unsatisfactory. Primary teaching and support staff were more content with the methods of change management employed in their institutions. Whilst responses had improved from 2004 regarding organisational processes, support staff were again more positive than the teachers.

Some three quarters of the primary school respondents and half of the secondary respondents agreed that their school's management of resources was satisfactory in terms of appropriate class sizes and use of ICT in managing resources. Primary support and

¹ Only two out of the three colleges completed this section of the questionnaire.

teaching staff were more convinced that their schools had a well designed timetable than the secondary staff, although the secondary staff were not negative in this respect. FE teachers' satisfaction was lower than that of the support staff in terms of college/school processes for deciding between priorities.