

Learners and technology: 7-11: summary report

Background to the research project

This seven month project was conducted by a research team from the Institute of Education's London Knowledge Lab. The project aimed to facilitate the 'learner voice' of Key Stage 2 pupils with regards to their use of information and communication technologies (ICTs). In particular the project was designed to:

- investigate the experience of learners in using technology for (in)formal learning;
- facilitate learners' envisioning of the ways in which technology can enhance learning in the medium-term future.

Data were collected from five primary school settings in London and the West Midlands during the autumn term of the 2007/8 academic year. In order to gather a broad range of learner opinions and perceptions, the project took a mixed-methods approach to data collection. This resulted in data being collected via: (i) a questionnaire survey of 612 pupils; (ii) pupil-led focus groups with 131 of these pupils; (iii) drawings of future ICT uses by 355 pupils; (iv) online elicitation of pupil-generated content, and (v) video data generated by pupils within school.

Research findings

i) Patterns of pupils' ICT use

All pupils in the study reported having access to a computer in school, with nearly nine in ten respondents reporting having access to a computer that they could use outside of school. Despite this ready access, our data showed many primary pupils' engagement with ICTs to be often unsophisticated - especially within the school setting. Learners reported that their school internet use most often consisted of schoolwork-related activities such as information and picture retrieval. Home internet use was dominated by online games and, to a lesser extent, chatting and emailing. In terms of non-internet activities, use of computers in school was reported to involve mainly the writing-up of work, making presentations and, for older children, spreadsheet and database use. At home children were using computers mostly for games and digital photography. It was notable that creative and collaborative uses of 'Web 2.0' applications were not prevalent either inside or outside school, with passive consumption of online content the dominant mode of engagement for most pupils.

The most engaging and most desirable use of ICTs was reported by pupils to be 'games'. Conversely the least exciting and most objectionable uses of ICT were reported to be related to school 'work'. As such there was little sense of ICTs leading

children to be more engaged with school-related learning as is often claimed by education technology commentators. There was little evidence of either a blurring of home and school uses of ICT, or a blurring of play and learning. Instead there was a strong sense of pupils' uses of ICTs for learning being shaped by the nature of the schools within which 'educational' use was largely framed and often situated.

That said, the majority of children did feel that ICT use led to gains in learning, especially in terms of finding things out and what can be classed as self-directed learning. Notably these perceived learning gains were felt to apply equally to in-school and outside-school use of ICTs. This could reflect the benefits of school ICT use being 'cascaded' into the home (ie that learning benefits of ICT use in school were being transported over into the pupils' home use of ICT and replicated). Conversely, it could reflect the negligible role of the school in 'adding value' to how children are already using ICTs at home.

Nearly three-quarters of pupils indicated that they had thought about how to stay safe when using the internet, with a majority claiming to be aware of ways that they could keep themselves safe. However, when asked to provide specific examples of such e-safety practices only one third of pupils were able to cite a valid answer. Interview data also suggested that some younger children had an abstract awareness of safety issues but that this was frequently confused in practice. Older children appeared to have more developed understandings of what risks might be when using the internet, although most responses were concerned with 'mundane risks' such as losing work or becoming bored with particular games or activities.

ii) Differences in pupils' ICT use

Within these patterns of engagement, some notable differences were apparent. Whilst few differences between girls' and boys' engagement with ICTs were evident, our data did highlight the significant influence of pupils' age and school attended on their eventual ICT engagement. Older children were more likely to report perceived learning gains from ICT use at school and home, perhaps reflecting the increased seriousness of school ICT use as children progressed through Years 3 to 6. For instance, activities such as online learning, database and spreadsheet use increased as children got older, whilst activities such as online gaming, chatting, making pictures and using digital cameras were reported by the children as decreasing with age up to Year 6. This is an area which would benefit from further sustained investigation across the transition into Key Stage 3.

Consistent differences in pupils' ICT engagement were also found between the five schools in the study. It should be noted that without recourse to some form of experimental research design it is not possible to infer any causality from these data relating to any individual school 'effect'. It should be noted that school attended acts as a proxy variable for a range of other issues, not least differences in socio-economic status, income, parental educational background and geography.

Therefore whilst we note the strong differences between different schools, for the time being we can conclude only that there are a number of 'within-school' and 'outside-school' issues this is likely to relate to. This is clearly an area requiring sustained longitudinal investigation.

iii) Pupils' desire for changes to school ICT provision

On the whole, pupils' perceptions of future forms of education in our study were mostly rooted in the present day context of the classroom and confined by the structures of the school. Indeed pupils' visions for changes in school ICT provision mostly concerned the direct importing of 'home' ICT devices and practices into the classroom. In terms of the desired qualities and capabilities of ICTs, children's responses were concerned primarily with issues of play, fun, and the use of portable hardware devices, rather than concerns with learning per se. These qualities and capabilities were seen to be best achieved through the importing of home technologies into the school - most notably games consoles, and for older children mobile phones, digital cameras and mp3 players.

In terms of desired changes to ICT practices within schools, a majority of pupils desired a relaxation of current usage restrictions imposed by the school. Pupils' responses to potential improvements to teachers' practice suggested a desire for increased assistance with internet safety and information retrieval (especially with younger learners). There were few, if any, suggestions relating to communicative, creative or collaborative ICT uses or practices associated with web 2.0 applications.

Conclusions and recommendations

Despite the slightly prosaic nature of their responses, it would be unwise to dismiss the Key Stage 2 pupils in our study as uninformed and unimaginative. Instead, we would contend that pupils' perceptions of desirable change reflect clearly the restrictions of school as opposed to the (relative) freedom of the home. Their views also reflect the oppositional relationship between the 'work' of learning in school and the 'play' of using digital media at home. A further theme running throughout many of the interview and picture data was the unequal power relations that exist between pupils, schools and teachers. As such our data reflect the way in which ICTs are shaped by the social and pedagogic functions of primary schools as institutions - not least the organisational imperatives that schools follow in relation to delivering national curriculum content, timetabling, filtering content and so on.

These findings suggest a need to develop forms of classroom technology provision which fit better with the needs, values and experiences of young people. In this respect there are a number of possible issues worthy of future attention:

- Schools should be encouraged and supported to explore alternative strategies of encouraging good uses of ICTs in school which can draw

upon the best elements of home ICT use but retain an educational relevance and value. Above all, there is a clear role for schools to act as an initial point of children's introduction and exploration of ICT uses as above and beyond games and passive consumption of online content. In this sense we would argue that primary schools need to be recast as sites of ICT exploration rather than ICT restriction.

- Schools should be encouraged and supported to seek ways of developing 'cultures of trust' between pupils and schools with regards to their ICT use. This could be achieved by involving students in the formulations of ICT regulations and restrictions in school. For instance, children could be allowed to negotiate the nature of their ICT use in school. At the very least schools should pay serious attention to the possibility of relaxing restrictions, blocks and filters on internet applications at school in conjunction with the wishes of their pupils. There may be room to involve school councils and other pupil-democracy mechanisms in determining the nature of schools' ICT provision.
- All education technology stakeholders should be encouraged to foster informed dialogues with young people about the perceived potential educational benefits of ICT. At present it would seem that there is little enthusiasm or excitement amongst primary pupils about ICT uses related to formal education. This suggests to us that there is a clear need to enthuse children about learning and about learning with ICTs before any agenda for change is decided upon. Without some effort to 'sell' ICT-based learning in this way it is unlikely that young people will force any 'bottom-up' change in schools' uses of ICTs. Pupils clearly have an important role to play in the development of future forms of school ICT use, but it would seem that the lead should be taken by schools and other education technology stakeholders if meaningful change is to be initiated.

Finally, in terms of future research priorities it is clear that 'snap shot' research projects are not a wholly satisfactory means of capturing 'learner voice'. Our use of methods such as online content elicitation, interviews and questionnaires were only partially successful in engaging with young people and allowing a dialogue about ICT to develop. It is suggested that more sophisticated research on 'learner voice' and ICT is commissioned which is longitudinal in nature and covers the full age-range of pupils in (focussing especially on early years and the transition from primary to secondary school). There is also a need for genuinely learner driven methods to be used which can provide young people with sufficient space to think about and reflect upon their ICT use. Future research should seek to elicit learner voice at a more sustained level - for example through extended use of visual methods, role-plays and drama as well as interviewing, observation and questionnaires.