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Digi-Teachers: Technology and Practice

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Background

Huge amounts of funding have been devoted to the provision of technology in education and much research has attempted to evaluate or measure its 'impact'. Government agencies and policy makers are constantly seeking for some justification for the moneys spent and for models of effective practice yet very little research has focused on expert teachers who make some use of technology as they see it 'fit for purpose'.

Research Questions

This project prioritises the evidence of expert teaching and seeks to investigate the theoretical notions around ICT to look at how expertise has adapted technology to produce highly effective practice. The aim of this paper is to explore the ways that teachers, identified by their schools as outstanding in their practice, develop their teaching expertise by making best use of technology.

Methods

Data was collected via telephone interview and in-depth case studies. The teachers included were first identified as outstanding teachers and then as being effective users of ICT. This categorisation is unique to this study. The study uses selected sampling based on peer identification. Whilst not unproblematic, using experienced professionals' judgement was a good strategy as it allowed for the identification of teachers who are not otherwise formally recognised by status e.g. Advanced Skills Teacher. Along side this, the original Dreyfus and Dreyfus (1986) five part model of expertise was also used to validate the nomination of 'expert'. In total, 54 teachers agreed to be included in the study and are drawn from a mixed range of attaining schools and subject specialism. 26 were teachers were from Primary and Infant schools and 28 from Secondary schools. 24 participants were males and 30 female.

Data was collected via semi-structured telephone interviews, with biographical information collected via survey questionnaire. Data from interviews was analysed using a simple content analysis and was then organised in terms of similarities in patterns and themes in terms of teachers' views on good teaching, the usefulness of technology as well as how pedagogy is adapted to improve student attainment..

From the 54 interviews, 13 teachers were then selected for an in depth follow up case study. Case studies incorporated a filmed classroom observation as well as two short semi-structured interviews; one before and one after the lesson observation. Data analysis incorporated a similar approach: a content analysis exploring emergent patterns and themes in relation to best practice.

Frame

Advances in technology means that ICT now plays an important role in the classroom (Armstrong et al., 2005). Used well, technology enables more effective and more personalised teaching and learning as well as offering substantial benefits to teachers in terms of efficiency. Evidence demonstrating the value of technology on student learning outcomes also continues to grow. However, appropriate and effective classroom use of ICT is found to be rare (Office for Standards in Education, 2001). In practice, established curricula and teaching methods remain in place under a thin coating of technological glitter, and available technology is often underused and poorly integrated into classroom practice (Hennesy et al., 2005). Furthermore, the relationship between technology and expertise is

sometimes unclear. Previous research has tended to investigate the generic characteristics of pedagogy in which ICT is somehow being used and has tended to focus on environments where the ICT infrastructure is strongly established. Reports on ICT and Pedagogy and ICT and Pupil Attainment (Cox and Abbott, 2004) concluded that there was a lack of real research evidence about what we know about effective teaching employing technology. In addition, research by Goodwyn and Findlay (2003) demonstrates that some attributes of good practice were misplaced, meaning simply "extensive use" rather than "expert use".

Huge amounts of funding have been devoted to the provision of technology in education and much research has attempted to evaluate or measure its impact. However, a vast amount of the theoretical work, for example about the affordance of these 'new technologies', is almost entirely speculative. Government agencies and policy makers are constantly seeking for some justification for the moneys spent and for models of effective practice yet very little research has focused on expert teachers who make some use of technology as they see it, fit for purpose. As Prensky (2007) states, to use twenty-first century's rapidly emerging technology effectively for education we must invent best practices together, in other words we must examine emergent best practices, in practice. The best place to start then is the classroom, by investigating outstanding teachers doing what they do best. This project prioritises the evidence of expert teaching and seeks to investigate the theoretical notions around ICT to look for how expertise has adapted technology to produce highly effective practice.

Research findings

The name ‘Digi-teachers' is used in this paper to offer a simple and distinctive term to cover this emergent group of expert practitioners. These teachers fit well with current views of expert teaching but they are not usually ICT specialists. A distinguishing feature is their capacity to integrate ICT into everyday teaching. Digi-teachers recognize that ICT both engages and motivates students and therefore has benefits for classroom management and learning. For them technology is just one more element in their expert domain of teaching, yet is a medium that allows for innovation.

‘Digi-teachers' are not determined by their age, although the newer generations of teachers have more such teachers. Nor are they characterised by the attractions of gadgetry or the ‘whizz bang' factor of ICT per se. ‘Digi-teachers' are concerned chiefly with the learning of their students and have a strong motivation to connect with their students' lives using the mediums that students recognize and engage with. ‘Digi-teachers' have normalized the use of digital and other technologies in the classroom, using technology in harmony with their fundamental teaching approach.

The vast majority of these expert teachers are self-taught having mastered the technologies they use by themselves. Their experiences echo the findings of other research (BECTA, 2004) who have commented on the importance of in-service support and training as well as opportunities to experiment through ‘trial and error'. They suggest that without these, it is unlikely that less technically literate teachers will be aware of, or be able, to exploit the potential affordances of new technologies. In addition, developing ICT expertise requires a high level of reliability and technical support, so as to minimise problems when they occur. This is especially important as Digi-teachers are expert teachers, not technicians. Their focus is on the efficacy of learning, thus they emphasis the need for more technical support to free them to focus on optimising the learning environment. This developing group of teachers really do harness technology suggesting that policy should shift towards developing and supporting teacher expertise rather than an obsession with technology more broadly.