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'Disruptive technologies', 'pedagogical innovation': What's new? Findings from an in-depth study of students' use and perception of technology

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Abstract

The paper describes the findings from a study of students' use and experience of technologies. A series of in-depth case studies were carried out across four subject disciplines, with data collected via survey, audio logs and interviews. The findings suggest that students are immersed in a rich, technology-enhanced learning environment and that they select and appropriate technologies to their own personal learning needs. The findings have profound implications for the way in which educational institutions design and support learning activities.

Keywords: Post-secondary education; Student experience; Evaluation; Technologies; Audio logs

1. Introduction

Technologies have long been promoted as 'disruptive technologies' (Sharples, 2003). They seem to offer the potential for 'pedagogical innovative' or are suggested as acting as 'catalysts for change'. These assumptions are reflected in the rhetoric associated with e-learning policy directives internationally but arguably are not reflected in actual changes to practice (Conole, 2007a). However the emergence of new forms of mobile, internet and social software technologies, which enable distributed collaboration suggests we are reaching a turning point in the way technology is used for learning. The terms 'Web 2.0' and 'e-learning 2.0' have become synonymous with this more interactive, peer-generated and collaborative internet (Alexander, 2006; Bacon & Dillon, 2006; Downes, 2006). Many argue that the new possibilities of these social networking tools are resulting in a fundamental shift in the way students learn, consume and produce new artefacts (Braun & Schmidt, 2006; Brown, 2000; Dillon, 2006; Prensky, 2001; Oblinger and Oblinger, 2005).

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However a review of papers which purported to study students' experiences and use of technologies (Sharpe, Benfield, Lessner, & DeCicco, 2005) found that many of these studies focused primarily at the level of course evaluations, rather than on how learners actually use and experience technology. Sharpe et al. argued that we are failing to adequately acknowledge the learner perspective in the development of tools, pedagogy and teaching practices. They suggested that more in-depth studies were needed that captured the diversity of how students are using technologies in their formal studies, as well as eliciting students' perceptions of technologies.

This paper describes some of the findings from a JISC[1]-funded project, LXP, which provides empirically grounded evidence of students' actual use of technologies to support their learning. The study focused on students across a range of disciplines studying in universities in the UK and consisted of a survey of students coupled with a series of in-depth case studies. This paper concentrates on the qualitative data; further details on the project and details of the survey results are available in the final project report (Conole, De Laat, Dillon, & Darby, 2006). The paper will compare the findings of the study with related national and international work in the area.

2. Background

The project aimed to collect learner stories on their experiences of e-learning. The work was informed by the findings from the Sharpe et al. (2005) review and our own understanding of the literature. Particularly relevant aspects of this wider body of research on students' use and experience of technologies are highlighted here as a contextual background to the description of our own findings.

Oblinger and Oblinger's book 'Educating the net generation' provides a useful baseline reference for research on students' use of technologies (Oblinger & Oblinger, 2005). They describe the characteristics of the 'net generation' – students born after 1980 – suggesting that these students fundamentally differ from previous generations in the way they process information and communicate (and hence learn). They argue that these students are comfortable with technologies and suggest that the ways in which they learn is task orientated and experiential. These learners prefer to receive information quickly, are adept at processing information and multi-tasking, and using multiple/multi-modal communication channels to access information and communicate with friends and tutors.

However, Kennedy et al. (2006) concur with Sharpe et al.'s (2005) view that there is a dearth of studies looking specifically at student use of technologies, arguing that more empirical research is needed to support the claims made about the net generation. They conducted a study looking at students' use of emerging technologies, focusing on how students were using these to communicate, publish and share information. Their initial findings point to extensive use of technology by students; they argue that this has considerable implications for institutional policy and practice.

Kirkwood and Price (2005) reported on data from the Open University spanning five years on students' attitudes to and experiences of technologies. They found that there was a dramatic increase in students' access to and use of ICT over the five-year period. Their meta-analysis revealed that there were differences in student access to, experience of and attitude towards technologies across subject disciplines.

Taken together these studies suggest that technologies are fundamentally impacting on the ways in which students learn, but that more in-depth research is needed to understand the nuances of how students are using technologies to support their learning.

Studies that focus at a more fine-grained level of analysis of students' use of technology are also important in the context of our research. De Laat (2006) studied emergent student roles and engagement with e-learning activities and found that students are actively involved in coordinating and regulating personal and shared learning activities. The findings showed that students at various stages of their course developed particular learning strategies and facilitation skills to support their online learning. Similarly studies carried out by Clouder and Deepwell (2004), De Laat, Lally, Simons, and Wenger (2006), Light, Nesbitt, Light, and Burns, (2000), McConnell (1999), Strijbos (2004) and Vonderwell (2003) provide a growing body of evidence that stu-

[1] JISC: Joint Information Systems Committee.