e-Learning Innovations and Innovative Practice:

A Philosophical and Educational Critical Reflection on the JISC Good Practice Guide

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A. Description of the theoretical background for this paper.

A.1. Intended audience

This paper addresses the issue of innovation in e-learning and, in particular, innovation in the form of adoption and use of mobile and wireless educational technologies in e-learning. As such, it

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is intended to inform and provide an impetus for engagement with the educational technologies described here to all academics interested in e-learning, as well as educational administrators and managers interested in the adoption of such educational technologies. More specifically it is directed to the academics teaching within the subject areas and disciplines supported by the Subject Centre for Philosophical and Religious Studies. As such, it adopts a more self-conscious theoretical (philosophical and educational) framework and engages critically with the relevant material.

A.2. The theoretical background of 'innovation' and 'innovative practice' in education and the reasoning behind this paper.

Undoubtedly, the primary theoretical foundation for the latest developments in educational technologies, and the driving force behind the adoption of the term 'innovative' to describe the new technologies that have been developed in the last 30 years or so, is the article by Marc Prensky, 'Digital Natives, Digital Immigrants' (Prensky 2001). Even though mobile and wireless communications are almost as old as standard (wired) telephony (the first wireless transmission going back into the last decades of the 19th century; see **http://www.umtsworld.com/umts/history.htm**), the use of these technologies in education did not bear fruits until the very last decades of the 20th century. Today, mobile and wireless communications are perhaps the most predominant technological forms of communication across the globe, with not only rapid developments in the spread of this form of communication (reaching more than 50% of users from the total population in the developed world), but also in terms of industrial growth in the adoption of new technologies, and the social and ecological ramifications of this (Plant, 2001).

Marc Prensky put forward the following idea: today's students are 'digital natives' (that is, they have grown up with digital technology, such as ICT, digital media entertainment and virtual games). On the other hand, today's teachers are 'digital immigrants' (that is, they grew up without any or with very few forms of digital technologies) and they moved into the digital world without the necessary preparation (cognitively and intellectually as well as emotionally). As such, today's teachers need training, not only for the adoption of the new technolo-

gies, but also to be able to communicate with their students via the new (digital) technologies.

Now, Prensky's article and views have attracted a lot of criticism in the last few years. These have focused primarily on the hasty generalisations that Prensky adopts: a technology user is not the same thing as a technology creator, and most technology creators who create technology with success for today's technology users are themselves digital immigrants. The critics have also stressed the social and emotional ramifications and dangers that the adoption of Prensky's ideas will mean for our educational systems (McKenzie 2007). However, the important thing is that Prensky's views provided the platform for a whole range of articles, podcasts and relevant literature in the educational world and gave an impetus for further research into the adoption of more new and 'innovative' technologies in education (Evans 2007).

Even though Prensky's ideas need to be examined one by one so that we can establish their individual merits and pitfalls, his initial stance that 'Our students have changed radically. Today's students are no longer the people our educational system was designed to teach.' (Prensky 2001, p.1), is, I think, based on my own teaching practice, correct. I have attended a lot of lectures by colleagues where students had to be told to switch off their mobile phones or to stop sending SMS messages. In my own teaching practice, I had to resort to the same sort of measures many times, until I realised that, instead of embarrassing my students, I should support them in the adoption of the new technologies and facilitate their learning through them. With these thoughts in mind, I provide below a summary of some of the techniques and practices that are most innovative and relevant to PRS academic life, as outlined in the JISC case study collection (taken from JISC, 2005), as I think that the educational uses of this new technology can be beneficial in the teaching of the disciplines supported by the Subject Centre for Philosophical and Religious Studies. Of course, as in the use of all tools (from a hammer to a narrative) it would be useful to the teachers and learners who are going to be engaged with them to know to what purpose they are going to adopt these new technologies and to know also how to avoid the possible problems and dangers associated to their use. Thus, I will close my discussion with exactly these issues.

B. What are the issues related to 'innovative practices'?

B.1. What do we mean by 'innovation' and 'innovative practice'?

The JISC Guide states that it uses the term 'innovative practice' to mean the following:

> 'pedagogies based partially or wholly on the use of mobile devices, including those without built-in connectivity, and those that offer mobile access to resources on the web and on the institution's learning platform' (JISC, 2005, p.9).

Now, this definition raises some important questions:

a. In what sense does the adoption of these technologies by educators form what we call (in JISCean terms) 'innovative practice'?
b. Is it only these that constitute what we can call 'innovative practice'?
c. What is the relation of this term to 'innovation' and what are the ramifications of its adoption for the use of the term 'innovation'?

To answer these questions, obviously, we must go beyond a lexicological and etymological analysis of the relevant words. We must go to their relevant and significant uses, especially in cultural and educational theory. Everett Rogers coined the word 'innovation' in technology to mean more or less the introduction of a new form of technology by a small group of people who, disregarding cost-benefit analyses and potential risks, venture into the unknown and try something new for the first time (Rogers 2003, p.282). Rogers proceeds into a formal analysis of the types of people who engage in the process of assimilation of innovation in society, but as this is not directly within the focus of this report (and potentially may lead us to a critique of both Rogers' empirical findings and the theoretical background of his research) it will not be discussed here. So, taking into consideration Rogers' definition of 'innovation', the JISC Guide actually means that these sorts of pedagogies and educational technologies involve a particular risk and are something new for the educational process as it is today. Let us see a

selection of case studies, representative and relevant to PRS, which are put forward as examples of 'innovative practices' in the JISC Guide, so that we can evaluate the potential risks and dangers associated with them. In what follows I shall summarise the case studies focusing only on the aspects of them relevant to PRS (detailed analysis of the equipment and machinery involved and analytical usage statistics are not my primary concern here). For each of the case studies summarised I have provided three questions to provide the context and to focus discussion in each case:

- What was the innovation?
- What was the challenge?
- What are the benefits for the educational process?

B.2. Selection of case studies with interest to PRS academics

City College Southampton (JISC 2005, pp.18-19)

What was the innovation?
Tutors used their students' camera-equipped mobile phones to create an enhanced student knowledge of their locality, by composing a larger picture (for example a complex view of the campus for newly enrolled learners). The technological innovation was mainly the creation of *mediaBoard* (a web-based multimedia message board, which can receive SMS or MMS messages from mobile phones). Students were divided into groups, which were then allocated different zones of the campus, and were asked to take and share (via *mediaBoard*) pictures of the campus.

What was the challenge?
The innovators here had to meet the challenge of quickly integrating multi-ethnic ESOL students, with varied educational experience and achievement levels, into the academic and the local community.

What were the benefits for the educational process?
The project successfully brought isolated groups of learners into contact with the wider community and improved the self-esteem of the participants.

University of Strathclyde (JISC 2005, pp.28-29)

What was the innovation?
An electronic voting system (PRS, Personal Response System) was adopted to increase interactivity in lectures (students were equipped with infrared voting devices and receivers and answered group questions during lectures receiving immediate feedback).

What was the challenge?
During their first year lectures, students at the Department of Engineering had difficulties in understanding core concepts. Attendance, retention figures and student morale were low. There was also concern that rise in applications would limit the interaction between students and teaching staff.

What were the benefits for the educational process?
Student morale was boosted and there was increased motivation amongst students to attend and participate in group discussions during lectures. Retention figures increased, as did the learning and teaching standards in the department. Debate and reflection in group discussions increased the level of active learning and students felt motivated to focus on knowledge gained and participate in 'fun' assessment activities.

Dewsbury College, Thomas Danby College, Bishop Burton College (JISC 2005, pp.30-31)

What was the innovation?
Tailor-made resources for PDAs, for child care and ESOL students. Web pages were scaled down so that they could be uploaded to PDAs; multimedia and Macromedia Flash files were prepared for 'drill for skill' activities (quizzes and other drag and drop activities that enhance specific skills of students). There are differences in the pedagogical function of this sort of innovation in the three different institutions: Dewsbury College placed emphasis on the support of different learning preferences; Thomas Danby College placed an emphasis on interactivity and ease of use (stylus more convenient than mouse); and Bishop Burton College placed an emphasis on student preparation via record-

ing, storing and interpreting data in the field, enhancing practical and analytic skills and improving the image of the educational technology adopted (which was perceived as 'cool').

What was the challenge?
All three Colleges saw personalised learning as a priority. They also had to provide learning resources to students in outreach and work based environments.

What are the benefits for the educational process?
Students saw the innovation as 'cool' and useful for increasing practical and analytic skills in outdoor and workshop contexts. PDAs support dynamic group activities without the use of Internet by the use of beaming.

A key feature of the above three examples is the innovative nature of the devices used (the mobile phones, PDAs and the PRS). Another key feature is the collaborative outlook of the pedagogy involved. Spontaneity, interactivity, portability, accessibility and context awareness, 'just-in-time' information, enhanced self-evaluation and personalised ownership of learning are also some other features of the above practices.

B.3. Analysis and discussion

It is evident from the above summary of the selected three case studies that mobile and wireless teaching and learning (or 'innovative practice' in JISC terms) are not only new in terms of the technologies adopted, but that they try to put forward a new view of teaching and learning. This view promotes a collaborative attitude to learning and gives increased importance to personalised learning. This of course seems to go in parallel with innovative approaches in education: from a behaviourist and cognitive developmental attitude to educational pedagogy we have currently moved to a more social constructivist and humanistic collaborative outlook. So, the above approach outlined by the selected case studies from the JISC Guide is in agreement with both Kolb's 'experiential learning' model (that is, a model that engages the student in the following aspects of learning: a) concrete experience or 'do', b) reflective observation or 'observe', c) abstract conceptualisa-

tion or 'think' and d) active experimentation or 'plan') and Maslow's 'hierarchy of needs' (that is, teaching as supporting students in meeting their non-physiological needs: to self-actualize themselves, to feel esteem, to feel that they belong, and to feel safe) (Kolb 1984; Maslow 1970).

However, in other, humanistic and collaborative, educational pedagogies (which the JISC Guide seems to favour), the situation is different. Carl Roger's critical attitude towards education and especially his austere critique of the not carefully thought out and planned incorporation of ICT in schools and universities (Rogers, 1951), is potentially damaging for the JISC approach towards innovative technologies (which in the Guide seems almost 'messianic': 'I believe that mobile and wireless technologies have the potential to transform all aspects of the institution's functions, from learning to teaching to the business and administrative processes.', Foreword by John Stone, Chair of the JISC Learning and Teaching Committee, JISC 2005, p.5).

Having said this, I should also state that some supporters of Roger's humanistic educational theory have a more positive attitude towards ICT enhanced teaching and learning.

Miller has claimed that web-based teaching and learning can be accommodated within the theoretical framework of Carl Rogers' ideas only if it is based on nine principles:

a. the course provides an emphasis on the learners' interests, personal ability, and prior knowledge of the instructional topic;
b. the facilitative instructor connects students' knowledge and interests with content principles of the course;
c. the facilitative instructor selects an environment that supports collaborative learning and learner control;
d. the facilitative instructor allows students to develop individually achievable objectives based on their interests and abilities within the context of the course, which could be done in the form of a written contract with the facilitative instructor;
e. the facilitative instructor allows students to develop forms of self-evaluation to demonstrate significant learning based on the individual students' learning objectives;
f. learners work with the facilitative instructor to organise

areas of interest to cover so the instructor can meet the needs of the students' learning objectives and maximize the learning potential;

g. the facilitative instructor identifies, selects, and presents to the learners resources to enhance their learning experience;
h. the learners conduct self-evaluation based on their individual learning objectives outlined in their learning contracts; and
i. outcomes of the course should show significant learning.

Miller uses these principles as criteria against which any web-based teaching and learning can be judged as humanistically oriented or not (Miller 2001).

It is evident from the above criteria, that 'innovative practice', as outlined in the JISC Guide, is compatible with Carl Rogers' approach to educational technology only when the students themselves have favourable attitudes to mobile and wireless ICT and its incorporation in the educational process. So, if we accept Marc Prensky's views about our students being 'digital natives' then we have to accept also JISC's view about the 'messianic' role of 'innovative practice'. But taking into consideration the ferocious critique that Prensky's views have received, I think we should be more careful in the adoption of JISC's attitude. It could also potentially be the target of critique emanating from another humanistic perspective on education: Purkey's 'invitational school' approach to education. Here, educational institutions should operate a bottom-up approach to decision making, in which all decisions (including about the incorporation of innovative practices) are the result of full deliberation with, and respect for, students and learners (Purkey and Novak, 1996). In the 'Institutional Perspective' section of the JISC Guide (JISC, 2005, pp.37-41), there is no mention of the specifics of the decision making mechanisms that led the particular institutions to their adoption of the particular 'innovative practices'. The attitude in the case studies of this section is far from the humanistic collaborative attitude endorsed by Purkey's and Rogers' approaches: for example, the first case study discussed the adoption of PC tablets for the 'policing' of students' attendance at lectures and tutorials in EHWLC; the approach that Purkey and Rogers would endorse here would be to study carefully the reasons for such a poor attendance record and deal

with it pro-actively rather than retro-actively, providing a cure rather than suppression of the students' behaviour (the JISC study case describes the student behaviour here in p.38).

B.4. Significance of our discussion for PRS teaching and learning

From the above discussion it is evident that a significant amount of care is needed in the adoption of the 'innovative practice' recommendations offered by JISC.

Does this mean that PRS academics should reject the Guide?

I believe that this is not an appropriate attitude towards the potentially positive aspects of the Guide in one's personal learning and teaching practice.

The JISC Guide offers many new ideas, some based on sound pedagogical theory and practice, and unless they are tried out in real learning and teaching scenarios their positive value for the educational process may never be revealed. So, what is advisable for PRS academics is to think about the relevant context within which they teach and try to see if an innovative practice that is suggested in the Guide is suitable for their teaching and learning environment.

Some ideas (such as for example 'policing' students' behaviour) seem dangerous and potentially destructive of the educational process if adopted.

Some others, however, may bring real solutions to real problems that PRS academics have to face in their daily lives as academic teachers: low attendance and retention rates due to difficult concepts and texts that are almost incomprehensible for the younger generation; lack of interest in group discussions and low self-esteem of marginalised ethnic, racial and cultural groups; lack of structure and focus on the arguments and the real issues surrounding the texts in student discussions; alienation and low-achievement rates of students enrolled in non-engaging and 'boring' courses; lack of motivation to read the texts carefully, and poor critical engagement with the course resources. Mobile technologies and other 'innovative practices' here provide novel solutions to old problems and challenges. The increased interactivity, personalised and collaborative learning opportunities, and 'just-in-time' feedback processes that they offer, quickly identify potential problems in learning and increase the retention rates and the motivation

of students. Another major problem that we have to face as educators in PRS disciplines is conveniently solved through the adoption of these technologies: many of our students face particular difficulties with the location of the lectures and course discussions: they have to study and work at the same time; they have to be away from campuses for specific time periods (prisoners, armed forces personnel, health or pregnancy related circumstances); this means that they cannot participate fully in class lectures and tutorial discussions. Having available learning resources tailored to mobile and wireless (or even Internet based) technologies are crucial in retaining and 'winning over' these students in the educational process. In my teaching practice at the University of Glasgow, Department of Philosophy, I once (a few years ago) had to respond negatively to a request by an American exchange student who wanted to have the course material (or previous versions of it) in advance on a CD. I remember discussing the issue with colleagues and the Head of the Department, trying to find what to do and how to respond. It was decided that we could not accommodate the request of the student. I think that more and more requests such as these will put academics in a difficult position. And the really difficult position here is to have to respond negatively to a student who wants to engage more with what he or she learns.

It also worthwhile stressing here the fact that recent research into the application of ICT in the teaching of PRS disciplines is quite favourable to innovative approaches to educational technologies that allow for a more interactive and collaborative engagement of academics and students with the teaching and learning process (Carusi, 2003).

In a relevant study about the adoption of Personalised Response Systems for the teaching of logic at the University of Glasgow (with electronic handsets which communicated via infrared to suitably calibrated receivers in lecture theatres connected to a computer and a large projection screen), it was found that incorporation of such innovative practices in the teaching of difficult and daunting (according to student perceptions) courses for Faculty of Arts students can successfully engage students and increase retention rates and assessment scores (both in formative and summative terms) (Stuart and Brown, 2004). However, one of the findings indicated that the students engaged more with the innovation because it allowed for their anonymity: they felt more secure to test their abilities in comprehension and see how they

did in comparison to the rest of the class, because they were left unnamed, due to the handsets being randomly given to them at the start of the class; a factor that the 'institutional perspective' as discussed in the JISC Guide above would never have guessed. According to this research students are highlighted as an important factor in the success of an innovation.

So, and even more importantly for PRS academics, it is advisable that all changes in the learning contract (including the adoption of innovative tools or 'innovative practices' in JISCean terms) are fully discussed, consulted and deliberated with the students and have the students' concerns and needs as the most important criteria. What new and 'innovative' technologies can offer for our teaching and learning process thus, will be maximised through the new air of collaboration and institutionalised collaborative deliberation mechanisms that they (should) bring to the teaching and learning process.

If you would like to share any examples of your practice in relation to technology, or get in touch to find out more, please contact me at:**costas@prs.heacademy.ac.uk / cathanas@hol.gr**

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