DIGITAL LEARNING ENVIRONMENTS:

THE EDUCATORS´ PERSPECTIVE

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## ABSTRACT

The use of digital education has been the subject of increasing interest within the fields of education and information and communications technology, but whilst these new developments can be viewed as exciting and progressive, they can also put great pressure on the educators themselves, who are required to adapt their traditional teaching methods to these new technologies [6]. This paper reviews some of the research in this field and examines some of the issues relating specifically to educators within the scope of these new teaching methods. A full version of this paper is available from the author.

## INTRODUCTION: REASSESSING THE ROLE OF THE EDUCATOR

An early study of the use of Distance Learning Education (DLE), [9], reported that there were major differences between the pedagogical methods that are suitable for normal teaching and those for computer based education. The major advantage for the students was that they would have access to educational resources that might otherwise be unavailable to them, either through time limitations, physical location, or due to some physical or mental disability [5], but these same factors also place a great responsibility on the educators using such computer based systems. The usual criteria of setting strict deadlines for assignments or exercises become very problematic, necessitating the introduction of flexible deadlines and ongoing assessment schedules and leading to an increase in the educators workload.

Selinger, [13], concluded that the role of local tutors is very important in helping students of online courses adapt to the style of the material, and for making it culturally and pedagogically relevant, particularly where a course may have been developed in another country. Beller and Or, [2], summarized the issues raised by the introduction of innovative learning technologies and the changing role and needs of the instructors, by defining a number of categories, including redefining of the role of both teachers and students and the adoption of new approaches to student assessment.

**Suitability of Distance Learning Systems**

Schwan [12] argued that although there are superficial similarities between traditional teaching paradigms and those using new technology, there are more fundamental differences than similarities, the major issues once again being those of the temporal and spatial nature, and the use of computer conferencing tools not specifically designed for pedagogical purposes. Warschauer [17] also points out, such computer conferencing systems do not always support all the features considered to promote successful distance based learning. Juntenen [7] stresses that the most crucial challenges of any web-based pedagogy lie in the ability of the teacher to supervise, support and motivate their students, whilst Young [18] further examines the role of the online teacher and possible pedagogical models.

Other research [3] [8] [15] has raised some concerns over the effects of such exclusive computer based communication on the students themselves, finding that such interactions are significantly less psychologically enriching than more traditional social interaction. Usip & Bee [16] performed comparisons of student academic performance and satisfaction within DLE environments and reported finding that distance learning seems most successful when it is an additional support to more traditional teaching methods. Research carried out by O´Connor and Ross [10] also examines the quality of learning outcomes offered by e-mediated techniques.

**Educating the Educators**

When we examine the existing computer and technology skills of the educators another set of problems emerge. Okpala & Okpala [11] reported high levels of expertise in word processing and use of email but not in other areas, particularly with regard to the design of digital learning materials. Regrettably some institutions regard computer based distance instruction as nothing more than a cheaper alternative to more traditional methods of education and as a consequence are reluctant to invest in the necessary training or support systems that are needed. However, earlier research [4] stresses the need to support those instructors already motivated to use these new teaching methods, and also to provide the initial motivation that will convince the remaining faculty that the time and effort required by these new approaches is justified.

Many teachers need training in quite basic IT skills before they can even begin to consider using educational technology within the classroom environment. However, the fear of being seen to be less competent in IT than many of their students may hold the educators back from taking this initiative and may prevent them from introducing new technology into their courses. The majority of educators will also require training in the design skills necessary to adapt their traditional class materials to digital formats, some studies [14] already investigating the effectiveness of a multimedia self-tuition course to assist the educators with their digital courseware preparation.

**Support Staff**

Where classes are provided using digital media then every effort must be made to ensure that the systems function correctly whenever they are required by both staff and students and that the educators should not be expected to provide or acquire the technical competence to offer this service in addition to their normal educational workload. Similarly, if lectures are to be streamed or broadcast, then live technical support must also be provided to the teachers at the time of broadcast. Difficulties can arise when the teaching system is technically unserviceable during a time when the student needs some aspect of the material clarified but traditional support methods of paper based or telephone communication can provide a solution to this problem, although with an increase in costs to the educational institution.

**SUMMARY AND CONCLUSIONS**

Digital learning environments should not just be considered an easy, inexpensive option. Successful e-learning takes place within a complex system involving, amongst other considerations, the student experience of learning, and the educators methods of planning and thinking [1]. Currently, staff development for e-learning focuses around the level of technological delivery strategies, when other more human issues such as the educators own conception of learning have a major influence on the planning of courses and the development of teaching strategies. For those institutions who do adopt distance learning as their primary learning mechanism, we should respect that the students they attract may not fit into the traditional academic assessment calendars and that their progress through the learning components of the curriculum may be erratic and require specialized tutoring. This in turn will require additional support for the teachers themselves to cope with the additional technological, and temporal and spatial issues associated with such distance education.

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