Enhancing IS Education with Flexible Teaching and Learning

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ABSTRACT

Flexible teaching and learning is not a new concept, but it is one that we, as educators, do not focus on enough. Designing and delivering innovative, exciting and relevant learning experiences is needed if we are to make our classes good learning experiences. Information systems (IS) educators deal with technology every day, yet we are sometimes the first ones to forget how to use it in the classroom. Educators must recognize the importance of increasing student control over and active participation in their own learning. This Special Issue of the Journal of Information Systems Education looks at flexible teaching and learning in the IS classroom. We present eight papers on flexible teaching and learning, dealing with both the face-to-face and online classroom environments. We hope that the ideas presented in these papers will foster your thinking in using flexible teaching techniques. In the end, flexible teaching and learning focuses on improving student learning, a goal that we all aspire to in our classrooms.

1. INTRODUCTION

The role of the educator in the contemporary education market is an unenviable one. IS educators work amid falling tertiary funding, increased administrative obligations and heightened pressure to deliver tangible outcomes with critical bottom line measurement. At the same time, the demand for education is also undergoing significant change - student demand for education competes for time among alternative commitments such as part time work, sporting fixtures and important social networking. It is against this background that IS educators must design and deliver innovative, exciting and relevant learning experiences.

While traditional approaches to course and content delivery do have their place, the changing nature of contemporary education has provided both direction and

opportunity for new methods. In particular, educators seek new ways of enhancing course content, improving educational quality, while maintaining sufficient time for research and administration responsibilities. In effect, both sides of the contemporary education market are seeking flexibility. As the number of tertiary education providers increases globally, the need for such flexibility also increases.

The Information Systems educator, at the nexus of technology and organizations, stands to make a valuable and profound contribution to these circumstances. First, Information Systems draws on many areas of theory and method to build its pedagogy. As such, IS educators are able to explain and present phenomena from a variety of perspectives, drawing on cases in a range of organizational, individual and regulatory environments. Second, the IS educator is already well versed in many of the individual technologies that the contemporary student prefers and pursues (such as social networks, portable computing, digital audio and electronic payments). Such experience stands the IS educator in good stead to present and use such technology in the classroom, and to act as a critical leader for educators in other disciplines. Third, information systems remain critical to and controversial in many organizations: its study, as a result, is relevant to many endeavors and job roles. In this special issue, the Journal of Information Systems Education, as the discipline's leading educational journal, showcases research work from IS educators around the world who are taking flexible approaches to teaching and learning.

Educators exploring the idea of focusing their courses and programs on the concepts of flexible teaching and learning need first to consider which aspects of the course or program will become 'flexible' and what that term will come to mean in the development process. Flexibility is generally operationalized as offering choices in the learning environment that allow for the tailoring of the course of study to the learner's individual needs and circumstances. Choices, in this view, center on such course basics as class times, course content, instructional approach, learning resources, location, technology use, entry/completion dates and communication medium (Collis, Vingerhoets and Moonen. 1997).

Ongoing developments in information and communications technologies (ICTs) open up continuous possibilities and opportunities, all of which tending to blur the lines between traditional course/program delivery models: on-campus teaching; distance education; and so-called 'open' learning. Lewis and Spencer (1986) define "open learning as a term to describe courses flexibly designed to meet individual requirements. It is often applied to provision which tries to remove barriers that prevent attendances at more traditional courses, but it also suggests a learner-centered philosophy". As Lundin (1999) notes, the term 'open learning' in reference to education and training has become widely used and, usually, distance learning and the use of ICTs for flexible delivery are considered to be important components of an open learning approach. While this is a step forward, it does not fully address the meaning of *flexible teaching and learning*, primarily because open learning models rely fundamentally upon forms of flexible delivery rather than incorporating new modes of educating.

All forms of flexible delivery remain valid in an open learning approach. The traditional face-to-face model must continue to be available, particularly when there is a need for some form of special high level of interaction or use of rare or expensive resources. However, there are increasing numbers of new, creative techniques and strategies for teaching and learning becoming available through ICTs which are not possible through a face-to-face approach but which can be used to complement that approach. Open learning also implies flexibility in policies and delivery 'on-campus' as well as 'off-campus', and therefore the term is seen as a broad approach to increasing access and choice in learning.

The primary difficulty with this model is that 'flexible delivery' implies a one-way direction from provider to learner. *Flexible learning*, on the other hand, empowers both learners and educators to send as well as receive knowledge and thereby facilitate a learning environment that goes beyond the one-dimensional implication of 'delivery'. Taylor, Lopez, and Quadrelli, (1996, p. xi) uses the term flexible to "refer to practices which utilise the capacities for learner-learner and teacher-learner interaction made possible through recent developments in communications and information technology to provide increased openness in both on and off-campus delivery of educational material". It is, therefore, necessary to re-examine the terminology and place emphasis on both flexible teaching *and* learning.

Flexible teaching and learning can be approached as incorporating four fundamental aspects (Lundin, 1999). First, flexibility can be provided through a range of teaching and learning strategies such as lectures with tutorials, independent study, discussion/seminar groups, debates, and ICT-based education. Second, flexibility may also be provided by permitting alternative program design by incorporating such notions as modularisation of the content and/or courses which would allow learners to devise a sequence that best suits their particular needs and to negotiate assessment strategies that best reflect their learning styles. Third, flexibility can be built into organisational structures and policies through the use of such devices as summer schools, block programs, immersion programs, part-time evening programs, distance learning, and mixed mode programs. And finally, the most difficult aspect – and one that is rarely addressed or considered - is the provision of flexibility through the institution's administrative policies and procedures, such as open entry and exit.

The result is a major shift in the philosophical approach to teaching and learning, one that is especially pertinent for educators in the discipline of IS, since many of the technologies and technological artefacts that are at the core of the discipline are fundamental to the new philosophical lens through which higher education is socially constructed (Hobbs and Judge 1992; McComb 1994; Santoro 1995).

There is no single, normative model or template of flexible teaching and learning. Rather, IS educators should adopt as a principle a commitment to increasing flexibility and exhibit and develop a variety of manifestations of flexibility in practice.

2. TYPES OF FLEXIBLE TEACHING AND LEARNING

Taylor and Joughlin (1997) were one of the first to introduce the concept of "flexible learning." They asserted that the introduction of flexibility encourages greater self-reliance and the development of lifelong learning skills 'Flexible learning' describes teaching and learning that is founded on the basis of open, progressive approaches to assessment, mode, pace and intensity, timing, location and content that uses a range of student-centered teaching and learning methods and resources (GIHE 2000). Additionally, flexible learning acknowledges and addresses differences in both student learning styles/preferences and educator teaching styles/preferences. The ideal is an instructional delivery method that engages all parties' interest and enthusiasm while delivering focused, relevant content. However, in offering flexibility, educators must recognize and understand who their students are and where their experience and interests lie (Gaies, 1989). From a student's perspective, Collis (1998) identified several forms of flexibility that were of particular importance; these included location, class times, assignment completion times, course content, amount of communication required and assignments relevant to their workplace. Students are personally and socially motivated to achieve and learn (Taylor and Joughlin, 1997; Harasim et al. 1995).

Examples of such educational approaches might include:

- Instead of the traditional lecture, student-led discussion groups allow students to take control of their own learning environment and learning methods. Within the bounds of the course, students can choose the methods of their assessment and educational approach. The course coordinator acts as a facilitator, becoming part of the broader learning environment, while students themselves manage the class.
- Optional pathways to assessment, such as examinations. Students can make responsible decisions about how they want to be assessed, and the timing of that assessment. Class members may choose to have their final exam for the course early in the session, if they feel that they are already in command of the topic. Alternatively, class members can choose to have their examinations later in the session in order to give themselves time to get better acquainted with the material.
- A reduced focus on in-class attendance so that students can choose the times at which they would like to interact with those around them and, at the same time, the times when they would rather study on their own. In this way, students feel less resentment towards compulsory course material and attendance.
- The use of student-led discovery approaches, where class members are given responsibility over particular topics and delivery methods. Class members can choose how they want to research the material, and then how they will present the material to the rest of the class in an engaging and involving way.

Clearly, the use of some of these approaches and ideas will necessitate a change in current administrative policy. For example, some schools mandate a certain amount of in-class time, especially for international students, in order to satisfy visa regulations. However, we argue that such changes are necessary in order to meet the challenges of the modern classroom and to facilitate the move by educational institutions to ensure learners' needs are met more adequately than they have been previously. These needs are often linked to the notion of equity of access.

Flexible teaching and learning can also impact online classes. Bryant et al. (2003) supported the concept that web-based flexible learning can provide an effective learning environment.

McMeekin (1998), in summarizing Rumble (1989) provides the following categorizations that, while originally applied to the notion of 'openness', could be just as legitimately be viewed as a framework in considering the development of courses or programs based on the principles of flexible teaching and learning. These categories are:

1. "Access related criteria", i.e. age, the ability to attend a class, employment status, how tied to an environment the student is (e.g. a seamen, homemaker etc.) relative independence of financial status, and the irrelevance of previous educational qualifications
2. "Criteria related to place and pace of study", i.e. able to study in a place of own choosing, can begin studying whenever chosen, study at a time chosen, study at chosen pace, and the ability to study independently of deadlines.
3. "Criteria related to means", i.e. the existence of a range of media that allows the student to choose.
4. "Structure of program in terms of content and assessment", i.e. ability to choose a particular course or section of a course, recognition of prior learning or experience, and a student's ability to define learning objectives and to select content, services and assessment method to match.
5. "Criteria related to support services", i.e. the provision of counseling and advisory services."

3. HOW FLEXIBLE TEACHING ENHANCES IS EDUCATION

In an era of rapid change, with a need for lifelong learning, it is appropriate that the IS discipline move towards a student-centered approach to learning in much the same way that it has embraced (or ought to embrace) the notion of user-centered development. Flexible learning is based on a constructivist view of learning and on the best knowledge of how students learn most effectively. It encourages greater student responsibility to learning as well as deep approaches to learning.

The advantages of flexible teaching and learning is that it can account for a broader range of learning styles while developing greater independence and self-direction in learning. Given the nature of the discipline, these are highly desirable characteristics to inculcate in future members of the discipline. Additionally, in view of the ongoing concern regarding enrolment in IS courses and programs at the post-secondary and graduate levels, flexible teaching and learning

opens learning in the discipline to learners who might not otherwise enroll in the courses/programs due to personal circumstances or geographic or socio-economic realities.

4. ISSUE OVERVIEW

The original Call for Papers solicited articles on a wide range of topics, such as innovative learner engagement, philosophical approaches to flexibility, managing and encouraging enrolments, and responding to changes in student information literacy and expectations. In total, we received some 25 papers which, through the standard blind peer review editorial process, were narrowed to the eight papers featured in this issue. Eight papers were selected for this Special Issue. We are proud of the international focus of this issue, with authors from the United States, Australia, Guam, The United Kingdom, and Taiwan.

The first paper by Mary J. Granger, Geoffrey Dick, Carolyn McKinnell Jacobson, and Craig Van Slyke, titled Information Systems Enrollments: Challenges and Strategies, looks at the decline in information systems enrollment around the world. The paper addresses possible causes of the enrollment decline and some of the "myths" regarding information technology (IT) careers. The authors call for more cooperative and coordinated efforts to address the underlying problems that have led to the current enrollment declines.

The next two papers focus on learner-centered education. Wai K. Law presents a paper titled Frontiers for Learner-Centered IS Education. He argues that learner-centered instruction has shown promise in recapturing the interest for IS training, He says it could be a powerful instructional tool for teaching and learning for the "Net Generation" and beyond. The author provides some lessons from a successful learner-centered program. This is followed by a paper by Sharen Bakke, Robert H. Faley, and Geoff Steinberg titled A Student-Centric Approach to Large Introductory IS Survey Courses. This paper describes a student-centric curriculum for delivering introductory IS survey courses that keep students interested and engaged while producing high-quality learning outcomes. Techniques described in the paper include a relaxed classroom atmosphere created by dimming the lights and playing topical music, friendly banter between the students and the professor, the use of game shows where the winning contestants are rewarded with tokens that can be redeemed in an online-gift catalogue, self-paced prerequisite exercises, and quizzes that can be taken by students at anytime.

The fourth paper titled "Outcome-Driven Experiential Learning with Web 2.0 is by C. Derrick Huang and Ravi S. Behara. It looks at the use of social networking and mass authoring tools in the classroom, such as weblogs, wikis, and online video, to name a few. The authors propose an experience-based, outcome-driven pedagogical model that is particularly suited for MBA courses. In their discussion, they address advantages and challenges with their proposed model.

Next, we present a paper by Behrooz Seyed-Abbassi, Ronnie King, and Eddie Wiseman titled The Development of a Teacher Strategy for Implementing a Real-World Business Project into Database Courses. This paper describes the process, challenges, and results encountered in a collaborative effort between a major health insurance provider and a university to implement components of a business project as the final assignments in courses for introductory and advanced database systems. They present several lessons learned that could be useful when applying classroom lessons to a real world project.

The sixth paper is titled Centralisation of Assessment: Meeting the Challenges of Multi-year Team Projects in Information Systems Education. In this paper Grahame Cooper and Aleksej Heinze focus on the difficulties of assessing multi-year team projects. In their projects, a team of students is drawn from all three years of a full-time degree course and works on a problem for a real-life organization. They present some benefits of the approach as seen from the students, the instructors, and the clients. The authors believe that the assessment process holds the key to a successful learning experience in team project work.

The last two paper in this Special Issue deal with online learning environments. The first titled Teaching Practices for Effective Cooperative Learning in an Online Learning Environment by Damien Hutchinson presents a conceptual framework for managing the cooperative online environment. The author anticipates that the conceptual framework would be applied by other teachers to facilitate cooperative teaching within their online environments. The author presents a case scenario using an Information Technology (IT) undergraduate unit named 'IT Practice' to demonstrate the validity of the framework. Finally, Ying Chieh Liu and Janice M. Burn present a paper titled Improving the Performance of Online Learning Teams - A Discourse Analysis. In this paper, the authors compare the processes of Face-To-Face teams and Online Learning Teams and propose methods to improve the performance of Online Learning Teams. The paper identifies four approaches to improve the performance of online teams.

5. CONCLUSIONS - CHALLENGE TO IS EDUCATORS

We hope, through this special issue of the Journal, to provide a shared basis for exploring newer, more flexible methods of class design and delivery in information systems. We believe that, by changing the way courses are approached by both faculty and students, IS educators can make a genuine difference to the general education landscape. Despite the benefits discussed in this article, however, there remain a number of challenges to educators.

Flexible teaching and learning focuses on improving student learning by recognising the importance of increasing student control over and active participation in their own learning. The thrust of this special issue is on newer, more flexible methods of class design and delivery, especially as these methods impact the teaching of information systems. Lessons learned from distance education, especially its on-line variants, demonstrate the value of systems thinking in this context: it is essential to understand that no part of a flexible teaching/learning strategy can stand on its own. Relevant curriculum design, identification of effective teaching and learning strategies, and appropriate selection and use of technology are all important and form a complex

system that supports each student's learning experience. Systems thinking for flexible learning opportunities should be considered organically rather than mechanistically for success. People - as learners, teachers, and supporters - are key components of every effective flexible teaching/learning system.

In this regard, we offer a note of caution: educators must also balance students' autonomy with the need to provide opportunities for stimulating learning and fostering interaction and collaboration between the students themselves and the teacher.

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