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The Changing Dynamics of Teaching and Learning Spaces: Where does the Printed Book Fit?

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Abstract: The evolution of teaching and learning spaces from physical spaces to incorporate digital/virtual spaces is a phenomenon now accepted as commonplace. In rich multi-modal teaching and learning environments we consider how digital resources have impacted the role of educators in defining their own role, and the resources utilised to supplement online education with a social presence reminiscent of a classroom experience. Using the conceptual framework for e-learning posed by Garrison and Anderson (2003) we consider the place of text based books alongside a diversity of resources, in a process that no longer privileges the printed book and yet retains it, in an increasingly marginalised position, in the higher education sector.

Keywords: On-line Learning, Student Learning Experiences, Learning Resources, The Future of Text-Books, e-Learning, Engaged Learning Communities, Social and Teacher Presence Online

Introduction

FOR THE NEW age learner any previous delineation between education, communication and entertainment has become blurred with multiple mediums now being harnessed to facilitate learning processes. For example, works of fiction and non-fiction (excluding learning and reference resources) are a part of a wider entertainment environment competing with other components such as television, video, DVD, I-Pod, portable-CD, mobile-phones, the internet and so forth. This entertainment environment is itself a part of a yet wider system of entertainment and communication that is now being utilized to provide materials and for learning and as a means of engaging with learning materials in preferred timeframes. Components of this system gain/lose popularity and become replaced with new components with little regard to merit in isolation, but from the aspect of worthiness with respect to other components. The market-place and its consumers make these decisions, not necessarily the disparate industries that are a part of this system.

David Loader, a former principal of two of Melbourne's leading private schools claims\(^1\) that curriculum's remain industrial in what are now knowledge societies, new student generations have digital mindsets and that pedagogical structures that include the primacy of text are dated (Reddy, August 2007). Students in secondary education were born into the world of the PC and in their informative years have grown up with the Internet as a resource-source. Secondary schools are embedding innovative digital technologies into classrooms. Internet, I-Pod, interactive electronic whiteboards, digital cameras, electronic clickers for students to answer and record teacher questions and video games are now established parts of secondary student learning (Jennings, 2007). All six State Education Ministers in Australia plus New Zealand have set up what is called The Learning Federation (TLF website, downloaded September 2007) to develop shared curriculum for secondary schools and deliver digitally as part of wider strategies for infrastructure, and capacity building.

Traditional higher education involved classroom-learning with a 'sage on the stage' approach anchored to a set text book as the prime resource supplemented by the need to visit the library for additional resources. These additional resources were limited by the size of the library and its ability to house resources. Classrooms, the printed text and the library were all physical resources to facilitate learning with the teacher interacting face-to-face with students and engaging in ways that infused their personality with teaching material. The concentration of teaching and learning around vertical hierarchical flows of knowledge were well suited to text based books as the opportunity to source knowledge from elsewhere was limited. However, the learning environment has evolved away from a concentration around physical spaces and is being replaced by digital/virtual spaces where access to knowledge and learning sources has become unbounded. Through digitisation, knowledge adopts patterns and modes of mobility to form inter-

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1 Loaders comments are about the Australian Education sector generally and not targeted at any particular institution.
connected nodes separate from any physical form. In many ways this is a visual space. In 2002 Tsembas suggested that internet and ebook development will mean more reading will occur on screen. She pointed to future widespread adoption of onscreen reading habits, and suggests these and other new processes mean the future of books in their present form is uncertain (Tsembas 2002, p. 21). Now some five years later we, as teachers and researchers, acknowledge the validity of her conclusions.

Higher-education courses now incorporate online mechanisms to supplement the learning experience in ways that can range from perfunctory to substantial, with some entirely online. On-line learning is now a key component of higher education student learning experiences as technologies compliment, and in some cases replace, traditional learning processes. The majority of commencing higher education students are skilled in media-enriched environments that include entertainment, communications and learning. Media-savvy and multi-tasked generation ‘Y’ students enter multi-modal learning systems being a key feature of the contemporary learning environment. Students engage with academics whom (for the most part), are also technology-savvy, are encouraged to create engaged learning communities and are themselves active researchers using a wide range of resource-sources of which printed scholarly texts are but one part. However, we note that while learners entering higher education are aided by the ability to access the infosphere, there is still a perception of a need for a ‘textbook’ as the prime source for subject knowledge, particularly for international students with a chequered prior digital learning experience.

This paper is concerned with the range of text resources available to teachers and learners in higher education environments and how they are a part of the learners and learning experiences. In particular we focus on print-based learning tools, such as the printed book, but it is no longer appropriate to think of books in isolation to the systems within which books are a part.

The Context for this Study

In this paper it is not our intent to prove that traditional print-based learning tools are somehow inadequate or outdated as learning resources. On the contrary a recent interview with Michael Hayward, Publisher at Text Media Publishing, (Heyward 2007), suggests that the Australian book industry remains bigger in terms of sales than music and cinema combined. Hayward sees huge growth in literary festivals and terms of sales than music and cinema combined. Nevertheless, we are suggesting that there is a wide-range of forces at work that increasingly emphasise other learning-tools at the expense of the traditional textbook. The first-named author made similar conclusions (Burch 2004), but from a book industry perspective, but we are now also taking this viewpoint from an academic teaching viewpoint.

As experienced academics with a number of years in both under-graduate and post graduate settings and with one author also having significant experience in the publishing industry we have been directly involved with the shifting patterns of student cohort composition and student behaviour. In particular we have experienced:

- the internationalisation of student cohorts bringing with it new styles of prior-learning experience;
- an increasing number of students who are reluctant to purchase printed text and who resist pressure during semester to purchase prescribed unit texts, even those used actively in topic teaching in the classroom; and
- an increasing use and expectation of web based resources.

For assessment tasks it is now commonplace to refer to web-based resources for research and communication. Even at the MBA level we notice that complex assignment tasks, including case-studies, are referenced to primarily digital sources. These dynamics and associated pressures and consequences present a number of issues that we discuss as follows.

Firstly, the use of web-based resources for research is not limited to students. In a recent journal paper submission the authors cited 71 references with only 17 of these referring to sources originating from printed text. Of the printed text references only 4 were dated 2005 or later, but 22 of the non-printed references were dated 2005 and later, including 7 from 2007. Clearly the influence of significant lead times for print based resources makes on-line material more appealing for research papers. We have no bias towards any particular sources, other than a bias to quality, but currency of research is particularly important, and both quality and currency can be well served through significant use of available digital content. An increasing emphasis on digital delivery of knowledge may be but one reason why the prestigious quality publisher Melbourne University Press (MUP) now publish approximately 25% of their titles only electronically (Cassin, 2007 from an interview with Adler, CEO of MUP).

A second issue we face as teachers is the recognition that academia is no longer the leisurely experience of a bygone era (Robertson 2002). Universities are increasingly corporate businesses and “(m)anagerial business-style operations with flexible delivery has meant a redefinition of what it is to be an academic” (Burch and Nagy 2007). The role of academics
and the knowledge work they are expected to perform has changed (Anderson et al 2002, Churchman 2001, 2005, Marginson and Considine 2000, Saravanamuthu and Tinker 2002, Saravanamuthu and Filling 2004). The modern demand on the academic is for media-enriched learning-environments, either through the encouragement of the institution, or through the expectation of the modern student. Most academics have already become, or are fast becoming, technology literate delivering both in on-campus face to face and online learning modes. The tools of trade now include interactive lecture-notes delivered in class-room digitally and online, DVD case-studies, digital and printed study-guides, i-lecture, pod-casting, online asynchronous learning and discussion web-sites, email, student digital communication access to teachers 24/7, use of Turnitin® by both students and teachers, and more. We, and our students, are immersed in digital environments.

The modern academic has knowledge work as an individual activity. This is well defined by Kelloway and Barling (2000, p.292) where they define knowledge work as a discretionary behaviour focussed on the use of knowledge and where the work is in four parts:

- the acquisition of existing knowledge
- the application of existing knowledge to problems
- the creation of new knowledge
- knowledge transmission

The above is a holistic view of academic work and although printed books are a very useful resource the view is not book-centred. Acquisition of knowledge is increasingly digital, although the quality of the source is sometimes questionable. Whilst it remains common for some academics to continue to publish in printed form, we suggest by far the majority of application, creation and transmission is digitally-centred. Davidson (2005) as a university librarian admits an unwillingness to cut ties with printed matter yet his experiences suggest that academic faculty members now perceive the academic library as an information gateway with little to no interaction with librarians. The library acts to negotiate access to pathways and networks of information rather than as the primary source for information.

A third issue, at least in Australia, is that government and institutional research policies shape academic careers and reputations and favour publication paths that are speedy and easily accessible. The need achieve key performance indicators associated with publication outputs on an annual basis does not favour a process that has long lead times. This also supports a notion that research findings should be disseminated quickly to fuel further research. Thus, for both research sources and research outputs we become focussed on digital facilitation. Also related is the role of the Research Quality Framework (RQF) in Australia that has contributed to a change in emphasis which undermines contributions made to the writing of textbooks. Time pressured academics must now concentrate efforts on journal publications for professional recognition rather than royalties that may come from the publishing of textbooks.

A fourth issue is the recognition by some publishers that printed text-books could be value-added by supply of digital resources. For example, text-specific web-sites, a digital copy of the text itself, teacher-resources online including ready-made lecture-notes, questionnaires and multiple-choice test-banks for student use or even as substitutes for teacher-prepared assessment tasks. The result is a digital product provided online with digital enhancements and yet also supplied through an intermediary process of printed text. Van Weigel (2002) suggests that (e)-learning will fail in potential if it is mere repackaging in digital forms of current educational models. We do not infer that there is an absence of market for the printed text, only that media-enriched learning environments will be preferred by media-savvy students and teachers. We could question whether enhanced digital features presents a form of complicit behaviour by publishers that acknowledges/reinforces the marginalisation of the printed text book, and is in fact a form of cannibalisation of their own market?

Or alternatively, whether the provision of value-added digital resources is a form of legitimisation as part of a process to maintain relevance. This viewpoint is supported by institutional theory which (amongst other things) considers that organisations do not operate in a vacuum. Interactions with other groups in society will at times necessitate defensive measures if power relationships are to be maintained (DiMaggio and Powell, 1991). Answers to these questions are beyond the scope of this paper; however we believe that the provision of additional resources by publishers will contribute to trends that deny the traditional hegemony of the printed text.

Digitally-based and media-enriched learning places/spaces in universities are the next step in the evolution away from the physical need to refer to a printed text. The University of Melbourne has announced controversial plans to physically archive the famous Baillieu Library research collection in order to transform freed-up space into a “learning-hub” (Morton, 2007). The university Libraries 10

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2 An online software for students to assess how much, or how little they may have plagiarised in assessment tasks before formal submission, and also used by teachers as an assessment of degree of original work. This software is highly successful because of the extensive use of digital sources by students, but would less successful if more references were sourced from printed-only text.
Year Strategic Plan (2006) indicates strategy to replace a Ptolemaic view of library-centred resource concepts with a Copernican view of the library as user-centred clusters of activities of which printed books are but one resource. The plan is inclusive of spaces that provide both noisy and quiet areas, areas that are mobile-friendly, food welcome, available for study, for research or to socially interact. This represents a paradigm shift towards the needs of learners and users rather than the physical storing of products or things. The book is not the centre, the student is; with scholars being liberated from dependence on their own libraries (Trow 2002, p. 306). Davidson (2005) suggests that digital publications have become “(t)he copy of record” and that predictions of the demise of academic libraries are imminent. His experience is that commercial journal archiving services are so quickly digitizing back issues of journals that printed copies are disappearing off the shelf and that now “(t)he digital revolution has begun, there is simply no going back”.

The Case for Student and Teacher Social Presence as the Connector in Digital Learning Environments

Traditional classroom based teaching in higher education relied significantly upon the presence of the academic to inspire and engage students in the learning process. Teaching presence and social presence have traditionally been readily available strategies (with varying skill levels) to higher education teachers in the class-room. The physical environment and the availability of hard-copy resources to share, discuss and connect were the key aspects of the learning experience. Students could be relied upon to acquire (borrow from the library or to purchase) and take the prime resource, the text book, to each class. As alternatives modes of access to material have emerged the necessity of relying on ‘the text book’ has dwindled in importance. Because teaching and student engagement in post-graduate higher education environments has increasingly a significant online and digital orientation prepared by technological-savvy teachers, academic knowledge-work is becoming more digital-dependant. While the classroom as a physical space continues to be part of learning experiences the character of this space is frequently digital technology-based with higher staff/student ratios making engagement increasingly challenging.

Student cohorts are often a mixture of on-campus and distance-learning students where concepts of equity demand that teaching delivery to be equitable within and between student cohorts, semesters, classroom and online environments. The Australian Bureau of Statistics (ABS, 2007) reports that, “(i)n 2004, Australia was the 5th largest destination for overseas students, attracting 6% of all tertiary students enrolled outside their country of residence”, and that overseas students in 2005 represented 18% of all higher education students in Australia. However the challenges of a significant overseas representation is keenly felt in business administration, management and IT which the ABS reports as accounting for 90% of international enrolments. This is confirmed by the personal experiences of the authors where in a particular unit of post-graduate study 85% of the students are overseas students studying in Australia.

It is our experience that large numbers of overseas students attend class with a placid, respectful, often silent demeanour. This may be because many overseas students come from learning environments that demand attendance in the classroom with Volary and Lord (2000) reminding academics that demographic variables concerning the country of origin are issues for consideration in the learning environment. Other factors to consider are variable English competencies and shyness in front of others impeding oral contributions, with better written competencies supporting a greater willingness to communicate outside of the class-room in online environments. In this environment the strengths of the physical classroom, the ability to create social presence, is compromised by the demographics of the modern Australian higher education student cohort, and the opportunity for social presence and student engagement being transferred to digital spaces of learning. In Australia, Ballard and Clanchy (1991) suggest that strategies for dealing with problems associated with overseas-sourced students should not be focussed on issues of poor English, inferior (student) logical powers, or resources, but on issues such as styles of teaching and learning and the roles of teachers and students The authors present a chart indicating a range of learning approaches from reproductive through to speculative with an intermediary point, analytical. As a teacher, one may ambitiously focus on and encourage a speculative or analytical learning environment based on collaboration, discussion, creative thinking, independent research, expansion of knowledge and similar learning processes the authors collect under the speculative banner, but we recognise such teaching directions and strategies are of little use if the student cohort is primarily reproductive in learning approach. We suggest that non-interactive resources such as printed text encour-

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1 Refer to the long-term library strategies mentioned earlier of The University of Melbourne and the conversion of printed research book space into learning-hub spaces.

2 This environment is almost irrespective of the social and teaching skills of the lecturers we deal with. The situation is common.
age reproductive student learning behaviour because the source is one-dimensional.

Quoting from an earlier study, Trigwell et al. (1999) discuss five qualitatively different approaches to teaching, ranging from Approach ‘A’ (teacher-focused transmission of information) to Approach ‘E’, (student-focused strategy to change conceptions), and a number of steps between. They suggest that Approach ‘A’ merely focuses on facts and skills but not relationships, whereas Approach ‘E’ has the student as the focus of self-directed learning. An old-style form of higher education teaching based on finding the very best textbook, handing it to students and expecting students to use the resource and ‘get on with it’ could be categorised as an Approach “A” teacher-focused approach to teaching. Particularly when supported by libraries full of similar texts and prior to the digital revolution. This is now an unacceptable form of teaching, particularly where a lack of student-focus is punished by students through powerful Student Evaluation of Teaching (SET) mechanisms and where individual teachers are measured by the institution for performance and career aspects based on SET scores. A wide-range of resources and digital learning environments are expected by multi-modal students and the printed text is now but one resource of many.

As technologies have marginalised the previous strong nexus between the physical teaching space and the printed book, academics can improve connectedness with students by utilizing the new virtual spaces available to them. This can involve exploring the possibilities now available by moving away from flat text and using enriched discursive text and multiple other media and communication tools previously associated with entertainment contexts. These tools traverse time and space with flexibility to reach students using their own terms of reference. We are strong proponents of student engagement (Burch and Nagy, 2007) and believe we can quantify benefits in terms of student learning outcomes. Coates (2005, p.26) actually argues that student engagement is a factor contributing to quality of university education. Garrison and Anderson (2003, p. 20) see value-add outcomes for knowledge-based economies from learning environments that encourage thinking ability of students, both independently and collaboratively. The authors suggest learning spaces where students, listen, respect, build ideas, challenge, assist, infer, seek, identify, and so forth. In effect a developed social presence not limited to a classroom or primary reference source represents an opportunity to connect in ways not restricted by space. However Burch and Nagy (2007) suggest social presence is not easy for many students, and by inference some teachers, to project in learning environments, and in particular in online environments. Lytras and Sicilia (2005, Wilson and Stacey (2004), Denis et al. (2004) and Motschnig-Pitrik (2004) name but a few, collectively discuss feedback for understanding and adoption, active communication as an essential component of interactivity, the value of the student perception of the interactivity of the teacher, online skills of openness and valued contributions, teacher respect (of students and their contribution), and many issues essential to interaction and engagement.

Conclusions

Hess postulates “(t)hat the medium is not the mode” (1996, p.22), and cites Numberg (1993) as having said the book has never been the exclusive nor most prevalent form of printed matter though the most privileged and most protected. Cope once wrote “The book as we have known it is dead. Long live its information architecture” (Cope 2002, p.19). We do not believe that Cope was suggesting that the printed book itself was dead, but that its architecture (the medium) transcends the vehicle itself (the mode), and that architecture has been embraced and enhanced by digital environments. Thus, when the printed book was the prime reference source for teaching, its architecture was immaterial in the context of its use as a teaching resource. Yet, with the development of digital content and delivery, the words, phrases, ideas, structures, information and knowledge once limited and confined to a physical vehicle called a printed book, are now free of most traditional physical constraints. This would not necessarily be particularly important but for the evolution of a range of other social and knowledge-work issues that will tend towards limiting the central focus on physical printed text:

- The modern higher education student is multi-modal and media-enriched where communication and entertainment are digitally-based and where massive learning resources are available in digital form, and becoming the media of choice.
- The modern higher education teacher does knowledge-work (teaching and research) in multi-modal digital environments, and is technology-savvy.
- In Australia higher education student cohorts often have significant student numbers sourced internationally where social and learning presence in physical spaces can be awkward for students with limited command of English and different learning backgrounds. Yet these students indicate comfort and availability for engagement with teachers and other students online.
- Physical learning spaces are critically important but are increasingly merely one of several learning spaces, most of which are digital in environment and technology. The printed book is a key
component of physical learning spaces but becomes less critical to digital environments and there must compete with masses of easily accessible and often interactive digital resources.

In this paper it is not our intent to prove that traditional print-based learning tools are somehow inadequate or outdated as learning resources. The Australian environment within which higher education is delivered will increasingly favour forms of resource delivery that are digital in format and not print-format. This is not necessarily because they offer greater flexibility but because learners and teachers are already immersed in communication, entertainment and knowledge-seeking environments that are digital.

References


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A once senior manager in the Printing and Publishing Industry with an emphasis on book production and in recent years a conversion to post-graduate university lecturer. I was a committee member of the RMIT University and Common Ground Publishing "Creator-to-Consumer" (C2C) project that researched the future of the book, and I published 2 papers for that project. I also published at the Beijing Book Conference. My research interests are in the Scholarship of Teaching and Learning and issues around Knowledge Transformation and delivery and the mediating influence of Socio-Technical-Systems (that include publishing)

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With a combination of business and academic profiles I am involved with MBA studies particulary for corporate groups. The student demographic are demanding of latest pedagogies and technologies supporting my interest in on-line learning and the use of Web2 technologies.
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