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Text and Tech: Coupling in Cyberspace

Abstract:

In response to the need to improve access to tertiary education, universities are increasingly implementing online delivery solutions. To this end the University of South Australia (UniSA) has developed UniSAnet, which aims to 'bring the benefits of asynchronous learning networks to as many students as possible' (Reid, 1999). UniSAnet has established a mass customisation delivery system. This paper discusses how an editorial team with 'content-oriented backgrounds' and 'tech know-how' (Montgomery, 1997) is able to add value in the dynamic and collaborative space of resource development, part of a 'service area' where the roles and functions of 'production and teaching support and student support services' are converging (Nunan et al, 2000). We provide examples of value-adding to online courses and discuss how text and tech are successfully reconciled in cyberspace.

The General Environment and UniSA

The environment within which universities now exist is undergoing rapid change due to a number of interrelated factors. These include the globalisation of tertiary education, the growth of flexible learning, and the ever-increasing dominance of information technology applications. Information technology supports a commitment to access and 'asynchronous learning' (Reid, 1999) by presenting new opportunities to students locally, nationally and internationally. In Australia, 'more than half of students have become accustomed to using online resources every week as part of their study' (Gallagher, 2000).

Recently, the Vice Chancellor of UniSA outlined a number of goals to be achieved by the University over the next five years. Two key goals announced were:

· By 2005, all students will be studying part of their program online through UniSAnet (the online teaching and learning environment of the University).

· By 2005, UniSA will have more than 10,000 international students studying in their own countries. (Bradley, 2000)

Students in this global market are increasingly likely to be fee-paying consumers. These students:

are expecting choice, and demanding educational outcomes that are more responsive, of high quality and specifically tailored to particular needs. (Nunan et al, 2000: 86)

That the novelty of online delivery is wearing thin is reflected across the board in online media. Dyson (1995) argues that 'providers of intellectual property' will face increasing 'social pressures for authenticity, [and] integrity'. Gahran (1998) comments:

> A few years ago it was enough simply to have a Web site. Then it was sufficient to have a slick-looking, professionally designed Web site … However, Web users increasingly demand high-quality content.

Montgomery (1997) concurs:

> In the past, content has suffered at the hands of programmers and designers who lacked some crucial skills that make the information on a site accessible, useful and enticing enough for people to return.

Another aspect of students in this global market is that they have diverse cultural and language backgrounds.

> Curricula and teaching approaches…need to capitalise on diversity in intellectually defensible ways. Enlightened universities and staff are… concerned that their courses and methodologies are inclusive, and that diversity is utilised to create an enriched learning experience for all students. (Nunan et al, 2000: 93)

According to Leask (1999):

> It is still easy…to find examples of IT being used extensively in courses in ways that do not enhance teaching and learning. For example, the 'dumping' of large amounts of text onto a web-site which students must first access and then print before they can use it, adds little of value to the learning experience. (page 3)

Whereas Leask goes on to talk about professional development and student support as strategies for value-adding, our focus is on communication.

> Written communication is about negotiating meanings: It is about intersubjectivity…it is therefore about imagining the social, cultural and economic place of the reading other(s), since it involves a considered evaluation of the range of potential readers' interpretations and/or responses to a given text. [It] involves negotiating a socially valid correspondence between the writer's communicative objectives…and the reader's real scope for purposeful (re)action or response in her/his interpretation… (Surma, 2000)

A diverse and fee-paying student population reinforces the imperative for effective communication. A student's 'enriched learning experience' with online resources is facilitated by addressing issues of language, literacy, and knowledge management.

Knowledge Professionals

To capitalise on developments in technology, the online environment requires a new or expanded set of professionals to address a set of issues that did not exist for print delivery (Cunningham et al, 1998: 147).

This development in the education sector is again reflected in the general online environment. Dyson (1995) says that in the world of e-business and intellectual property, 'trusted intermediaries…add value-everything from…selection, filtering, interpretation, and analysis'.

Some of the new issues faced in the education sector include:

· how to develop and deliver to students a range of materials that utilise very different technologies, such as a combination of CD-ROM, web and print

· how to cater for the different levels of technological sophistication and access that students may have, for example, by implementing strategies that avoid long download times

· how to assist students to make the most of their learning resources, for example, by the provision of technical guides.

What remains consistent for the development of online educational resources is the need to develop content for ease of communication. Academics possess expertise in their discipline. They can receive support for their pedagogy from professional developers. However, in this new online environment, they have become, or demands are made on them to become, materials developers as well as teachers and researchers. They can benefit from the support of knowledge professionals who can offer an objective assessment of their teaching and learning materials - an assessment that addresses both technology and text. Optimising the evolving technology is an issue, but so is language itself, because:

…words always cause trouble…recalcitrant, impudent and just downright difficult, they require some force to go where we want them to and do what they are being directed to. (Tofts, 1999: 7)

Underpinning all online issues are 'textual' ones. 'Intellectual work', says Tofts, 'is predominantly a literate affair' (Tofts and McKeigh, 1997: 28). The fact that the form of the 'text' is changing - words interacting with images, audio, animation and hyperlinks - does not alter the centrality of textual and literacy issues to communication. (What may be changing, however, is what optimum online content presentation in an educational global paradigm looks like.)

Text and tech merge in the skills of the 'knowledge professional'. Other terms with currency include 'information architect' and 'knowledge manager'. Montgomery (1997) states that 'a new breed of Web developers':

…have the tech know-how combined with a diverse range of content-oriented backgrounds that are more conducive to this new communications medium. [They]…are adding the necessary degree of sophistication and integrity of Web content.

Skyrme (1997) formulates several categories of tasks that information professionals carry out:

· articulating the value adding that good information management can bring

· developing closer relationships with knowledge champions in their organisation

· helping users help themselves

· being active Internet users themselves

· maintaining groupware for their own and their clients' uses

· sharing information in discussion lists and seeking out best practice and benchmarking their own work.

'Information' can be both empowering and entrapping, especially in the online environment that it colonises as effectively as a virus. Management of information is required to overcome what Skyrme (1997) refers to as 'the information paradox' in which there is an excess of data but a lack of coherence. Information-rich environments, such as online teaching and learning ones, need systematic approaches that gather, classify and add value to information and support the learning process. Communication of accurate and appropriate information to specific audiences needs to be well-structured and organised. Principles of useability such as those developed by Jakob Nielsen (2000) are pivotal to knowledge management - for example, the use of straightforward and simple headlines and page titles, hypertext to structure, and groupings and subheadings to facilitate scanning.

Editors at the Flexible Learning Centre

The Flexible Learning Centre (FLC) is a service unit at UniSA which, along with other service units within the University, 'works to improve the teaching and learning environment for students and staff' (Flexible Learning Centre, 2000). The FLC currently has three main activities:

· professional development for academic staff

· student support services

· teaching and learning resource development and delivery.

A team of seven editors is employed within the Production Services section of the FLC. The role of these editors is to 'support academics in the development of flexible teaching and learning resources' (Costello et al, 1999).

Assisted by a group of highly skilled desktop-publishing staff, for the last decade the editors have played an important role in producing print-based study packages for external (distance education) programs offered by the University.

In providing editorial assistance, editors have often worked intensely on individual courses, undertaking a comprehensive edit of the study materials developed by the academic author(s). As defined by the Production Services editorial group, a comprehensive edit looks at:

· structure (size, complexity; conceptual integrity; objectives fulfilled; requirements for rewriting, expansions/summaries; links between text and graphics)

· language and style (appropriate; logical; clearly argued; consistent; inclusive; no repetition, redundancies, contradictions, irrelevancies; sentence structure and expression)

· presentation (effectiveness; appropriateness; explanatory)

· readership (organised; strategies for flexible learning; activities, questions and pacing).

In addition, a comprehensive edit also includes a copy and verification edit. A copy and verification edit checks that grammar and usage are correct, the meaning is clear, and the content is consistent both textually and visually. A verification edit ensures that all elements of the document are included and in the proper order; all amendments have been inserted; a set style has been followed; any spelling or punctuation errors are corrected; they are consistent; and the document is ready for printing.

However, in recent times, editors within Production Services have been faced with a range of challenges which have required them to rethink the ways in which they can assist academics who are developing teaching and learning resources.

One of the central changes which has forced this rethinking has been the movement towards online delivery. This shift has required editors to:

> learn the rhetoric of the new electronic medium just as they have done for print. The Web is an information-based medium wherein the message is conveyed by means of text, as well as graphics, sound and animation. These all work in tandem to produce meaning. It is precisely this aggregate that editors need to master. (Costello et al, 1999)

As noted earlier in this paper, the University has adopted UniSAnet as means of rapidly expanding the number of courses that it is able to deliver online. One of the guiding principles of UniSAnet is the idea of 'mass customisation' (Reid, 1999). This approach has involved the development of a range of 'wizards', which enable academics with a minimum amount of technical knowledge to develop online learning materials in the form of learning guides, quizzes, and discussion groups.

In many cases, academics have produced course materials for delivery via UniSAnet without editorial involvement. However, at the same time, and in conjunction with graphic designers, desktop-publishers and multimedia producers, editors have been involved in the production of a number of online international programs in the areas of education, business and nursing. In performing this role, editors have project-managed various tasks, comprehensively edited content, consulted on the design of customised interfaces, developed site-structure and navigation, and provided technical advice.

A recent example has been the extensive involvement of editors in the development of the Bachelor of Nursing International program. In working on courses for this program, editors have:

> · project-managed the production of the study packages for both print-based and online
>
> · structured, formatted and comprehensively edited the content of these materials
>
> · advised on technical issues such as the value of file downloads, and types of hyperlink

Viewed in isolation, such examples might suggest that with the shift away from print-based materials and the expansion of the online environment, there is scope for editors to simply make the crossover into editing online courses without a significant change in their basic relationship to production. After all, as argued in the opening section of this paper, text that is online can benefit equally from editorial work as text that is in a print-based form. However, the reality is that the shift to online is requiring the editors to undertake a significant reorientation in their role.

One of the factors which is contributing to this process is the contrast between the relatively fixed character of print-based materials versus the evolving form of online materials. Historically, the approach taken to developing print-based packages was that they would have a shelf-life of three years. Within this context, there was a clear opportunity for study materials to be edited during the initial development phase. However, with the creation of an online learning guide wizard, it has become possible for academic authors to engage in the ongoing development of teaching and learning materials.

As the expansion in the number of courses available online continues to accelerate, the number of academic authors engaging in the ongoing development of online study materials

is likely to increase because of the advantages associated with this approach. One advantage is that it provides a 'just-in-time' solution - that is, rather than being faced with long lead times in the development of study materials, authors are now able to work on these materials right up until the time that students actually need to be able to access them. Another advantage of this approach is that it enables academic authors to rework and update sections of their content in response to such factors as:

· feedback from colleagues and students

· the significance of current events to the field of study

· the publication of new books and journal articles

· changes to the URLs for other web sites

· the emergence of new online sources of information.

Thus, rather than viewing the process of producing study materials as being associated with the development of end products, it is increasingly being conceived of as being a collaborative space in which there are no end products, but rather a rapidly expanding range of continually evolving teaching and learning materials.

This change has required the editors within Production Services to consider how their basic role might need to be redefined. While there may be some scope for applying traditional editing principles to particular 'flagship' online courses, the shift towards a model in which the majority of academic authors are engaged in the ongoing development of their materials on UniSAnet means that this approach will not be appropriate to many authors.

Another factor reinforcing this conclusion is the issue of cost-effectiveness. The traditional approach to editing is labour-intensive and involves a large investment of time and effort in relation to a relatively limited number of subjects. Together with the expansion in the development of online materials, the reality of increasing financial constraints in the area of higher education means that there is a need for work groups such as the editors within Production Services to adopt more cost-effective work practices. In other words, the traditional 'comprehensive-edit model' may need to be abandoned as a basis for general editorial practice on the grounds that it is too expensive.

A possible resolution of these issues might be found in the idea that the editors adjust their work practices so that they tie in with the idea of 'knowledge management' which was discussed in the previous section of this paper. Adopting this model would mean that the focus of the editorial group would be on such tasks as:

· facilitating independent academic use of UniSAnet

· passing on appropriate skills to academics

· improving a greater number of courses to meet the needs of a larger number of students.

The following quotation from a recent paper dealing with the production of teaching and learning materials in the area of higher education provides an apt summary of the possible reorientation in role that is being suggested in this paper:

The aim is to impart skills to others rather than creating dependence by mystification, or the defending of territory and traditional roles. (Nunan et al, 2000: 97)

The development of new forms of editorial assistance that tie in with the expanding online environment is a process which is still occurring. Nevertheless, it is possible to cite a

number of specific examples of recent changes in editorial practice that are consistent with this approach.

For example, in conjunction with academic authors, professional developers, learning advisers and other production staff, the editors have contributed to discussions about various ways of increasing the functionality of UniSAnet tools.

One of the editors has worked in conjunction with a UniSAnet programmer to produce a print-based Word document directly from an online Study guide. Viewed in its online form, this Study guide was divided into a large number of individual and layered Hyper-Text Markup Language (HTML) frames. Printing from such online materials is time-consuming and cumbersome, as the user needs to go into each individual frame to print it out. However, the end-product of this particular project was an integrated Word document, which was then formatted by the editor using a print-based template.

Editors have also conferred with UniSAnet IT staff over such issues as the file types that are suitable for uploading to UniSAnet. The editors have also become informed about the security and access issues associated with study materials that are available online through UniSAnet but are password-protected. The editors have then passed on this information to academic authors, thereby enabling them to upload files and enable particular student groups to access the online materials. On occasions, when academic authors have requested direct assistance, the editors have assisted them to make these kind of adjustments to their online materials.

Similarly, the editors have developed skills in HTML and then applied these skills to particular projects in order to add value to the layout and design of online materials developed by academic authors within UniSAnet.

Editors have also helped to embed the online culture and promote the take-up of UniSAnet by academic authors. For example, an editor was involved in project managing and producing the first course using UniSAnet tools. This course was subsequently used as a model in the launch of UniSAnet in 1999.

Another newly emerging form of editorial assistance has involved focusing on helping users help themselves. To this end, the editors have written a technically based guide to electronic teaching and learning resource development and delivery; a technical glossary; as well as several technical 'how-to' guides for students: to access online study materials, use online discussion groups, and download files, etc.

In a similar vein, the editorial group has convened a series of workshops with academic authors. The aim of these workshops was to encourage authors to independently produce their own study materials.

Finally, there have also been a number of cases in which editors have performed an advisory or consultative role for academic authors, rather than engaging in an extensive editing process. Specific examples include the provision of:

> · brief editorial reports on samples of print-based learning materials
>
> · feedback in relation to the structure, design and content of online learning guides.

Future plans include proposals to develop additional strategies to pass on both editing and technical skills to academic authors. Specific proposals being worked on include:

> · online training and support materials
>
> · establishing systematic approaches in the form of email and hotline help.

Furthermore, it can be argued that the expansion of the online environment means that there is scope for editors to perform other non-traditional roles that are not yet a regular part of their responsibilities. For example, Nielsen (1998) has pointed out that editors are able to perform the role of 'content gardeners'. This role involves being given the responsibility for replacing 'outdated material' and updating 'older content as needed (with new links or new material)'.

Thus, to summarise, this proliferation of a range of new forms of assistance to academic authors suggests that there is scope for a redefinition of the editorial role and the adoption of a 'knowledge management' approach by the editorial group within Production Services.

Of course, the future evolution of such an approach is ongoing and contingent upon a range of interrelated factors referred to in the opening section of this paper, such as the pace of technological change, financial constraints, and the competitive pressures which have been influencing universities as a result of the process of globalisation.

Indeed, one of the reasons why the case of the editors within Production Services is of particular interest is that it might be viewed as an indication of future directions for editors in other sectors of society grappling with the shift towards a virtual environment, as well as the reality of tighter financial constraints being experienced by knowledge-based organisations in both the public and private sectors. As one editor reflecting on these issues noted recently:

> Because language is inextricably bound to all spheres of activity, word workers are at the sharp end of change where new shared meanings come into existence. (McCausland, 2000: 1)

Conclusion

> New technologies alter the structure of our interests: the things we think about. They alter the character of our symbols: the things we think with. And they alter the nature of community: the arena in which thoughts develop. (Postman, 1993: 29)

Our 'community' can now contain individuals at great geographical distance. The virtual self now exists parallel to our 'wetware' (physical) body. The online environment may be changing what it means to be human itself.

In future, we expect more changes to the online learning environment to further impact on the work of educational editors. The online environment may be changing the concept of literacy as well, because it promotes a diversity in communication through a mix of media. According to Gallagher (2000):

> Australia has some very sophisticated capacity for instruction design, courseware development and on-line delivery. At its best it is internationally pace-setting.

UniSA editors are skilled at facilitating the delivery of appropriate and well-organised information to self-directed learners. Their skills range across language use, structure and navigation, assessing interface design, HTML writing, and implementing new technology.

It is in the well-integrated coupling of text and tech that solutions to some of these changes and challenges will be found. The coupling of text and tech is uneasy. The partners speak different languages and come from different cultures. But collaboration and interdisciplinary practice are the signatures of service-oriented, global education.

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