Between Scylla and Charybdis: An Analysis of Issues Arising from Implementation of a Distance Education Course

Leonie Cheetham and Michael Steer[1]
Renwick College

Introduction

Communication technologies are fundamentally changing the way in which many tertiary institutions operate by redefining the nature, scope and possibilities within the learning environment (Orr, 2001). This amazing technology with its ability to facilitate the shaping and transformation of information is currently generating incredibly rapid change in higher education. The new horizons that have appeared through the introduction, use and management of information resources and technologies in teaching, learning, research and institutional management have resulted in a virtual 'e-sea', on which navigation is proving to be a challenging and awe inspiring task. This paper seeks to chart the exploratory voyages of one small postgraduate college through the turbulent currents and convergences of online learning and enabling technologies. It seeks to chart the College's progress towards generation of a new form of "learning community" as it sails like the hero Ulysses in the Iliad between the opposing perils of the many headed Scylla –like monster of traditionalism and the huge Charybdis-like vortex of radicalism.

Background

The hero of this epic, the Royal Institute for Deaf and Blind Children at North Rocks, in Sydney, is one of Australia's longest established community service organisations, having been founded in 1860. The Institute is Australia's major independent provider of special education services, delivering a wide array of educational programs and supports to children who have significant vision and/or hearing loss, including children who have additional disabilities. Renwick College is the Institute's centre for research and postgraduate professional studies in the education of children with sensory disabilities. It is affiliated with the University of Newcastle.

A variety of continuing education and postgraduate professional studies may be completed through the College, with all degree programs leading to awards of the University of Newcastle. Renwick College was established in 1992 as part of the University's Faculty of Education to undertake the Royal Institute's mission of enhancing opportunities for professional educators in the field of sensory disability.

In 1996, the College produced its first two Master of Educational Studies graduates, while some 20 students worked towards completion of their Masters of Special Education. In 2001, College enrolment had climbed to 73 students, including four Ph.D. enrolments. There are 9.5 equivalent full-time employees engaged as academic and support staff. Several adjunct and sessional lecturers are engaged on a part-time basis.

The unique collaboration between specialist Institute and major university has created the largest and most comprehensive centre for professional training in sensory disability in Australia and the only such centre in New South Wales. Nationally, the gradual development of this collaboration has helped reverse a trend of diminishing research and professional training provision in this

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small but highly specialised field and has created a centre with a growing international reputation.

Navigational Strategies

The Institute-University partnership is an unusual one with regard to generally accepted models of professional preparation. Born as an atypical tertiary education institution, Renwick College was early to recognise the important role of flexible learning, but its offerings in the first half dozen years of its existence were of the traditional "sage on the stage" model. Flexible delivery of courses seemed to hold a key to the challenges of program delivery to a low incidence clientele scattered across an enormous geographical area (Hunt, 1997). This model initially focused on the delivery of learning packages in a manner not requiring face-to-face teaching. In some instances it is tailored to individual need, in all cases it is delivered in a manner that permits individual adaptation. In its initial stages, courses were delivered in the traditional correspondence mode of printed packages mailed to students.

At the end of 1999, it was decided to completely reformat the mode of delivery of a number of subjects in the Vision Impairment stream. In 2000, the first subject offered in distance mode, as a paper-based package, *EDSD531 Sensory Systems, Perception and Child Development* had three students enrolled. The program's full-accredited sequence of eight courses may now be taken through a combination of paper-based distance learning packages and block residential courses offered during school holidays. This enables interstate students, as well as those situated outside the Sydney metropolitan area, to access the degree program. During 2000, plans were formulated to offer a similar blend of subject offerings in the Hearing Impairment stream and its first subject was offered during 2001. Distance education students in both streams have significantly increased (1200%) with a total of 39 now enrolled. Students come from Victoria, South Australia, the ACT, and remote areas of NSW and internationally from Singapore and New Zealand. Some subjects have also been taught offshore in New Zealand by visiting lecturers from Renwick College in collaboration with Victoria University, Wellington and the New Zealand Ministry of Education.

At the beginning of Semester 1, 2001, a part-time Distance Education Coordinator position was created to assist with administrative, liaison and library support functions. In Semester 1, 2002, a new Multiple Disabilities strand has been added to the program.

Within the last two years the College has established the rudiments of multi-mode online learning, electronic advising, the beginnings of an online peer network and a virtual library. The challenges of opposing forces of traditionalism and radicalism have created some interesting obstacles along the way.

Perils at sea

Problems and issues encountered in the conversion of a traditional course structure into a distance learning program supported by online delivery include the:
- availability of appropriate technological infrastructure
- provision and allocation of resources
- organisational structures and procedures
- service quality issues
- student access and equity
- computer and information literacy levels
- need to find the right balance between technology and pedagogical and students' needs.

These issues and areas of organisational challenge are briefly discussed in the following pages.

Technological Infrastructure
The College infrastructure for distance learning has evolved within an experimental environment, seeking to emulate the flexible learning programs of larger universities, but customising them to the requirements our student target group. The College does not have a dedicated information technology team and access to the Institute's information technology section has been on a specific project basis. Collaborative web projects have also been undertaken with visiting overseas sessional lecturers. To date there has been no major outlay in courseware or software, nor has there been any large financial expenditure on the program.

A range of flexible modes have been adopted or experimented with while developing the infrastructure for the College's evolving online community. These are presented in Table 1:

Table 1. Experimental Delivery Modes Used by Renwick College 2000-2001

	Paper-based Package	Residential Block Lectures	Web Page	Media Player	Internet Links	CD	Online Readings	Email Group
Vision Impairment	✱	✱			Within package			✱
Hearing Impairment	✱	✱	✱		Within package		✱	
Library	✱	Tutorial	✱	✱	Interactive	✱	✱	
Admin	✱		✱		Interactive			

Provision and Allocation of Resources
Although well resourced by the Royal Institute, the College has sought to retain a cost-effective model in providing and allocating resources to its distance-learning program. Problems stem from the popularity of the program and the ability to provide adequate financial and human resources to cope with expansive growth while maintaining quality service and a high level of personal support. A casual library technician position was created in Semester 1, 2002 to provide additional support for distance learning

Organisational Structures and Procedures
The evolving Renwick online community aims at supporting students' needs through:
- provision of professional training courses irrespective of location
- access to Internet resources to supplement existing course material
- providing communication and feedback with lecturer or professional peer group
- encouraging innovative use of the Internet for assessment purposes
- fostering a sense of enjoyment and confidence in using online interaction

Administrative problems to date have included lost mailings or mailings arriving late.

Service Quality
Becoming a distance education student is likely to induce feelings of isolation, little sense of being part of the learning community and a sense of unreality (Morgan, 2001). By fostering regular, personal contact with distance learning students, a positive relationship is gradually being constructed which could result in greater student retention, improved student satisfaction and motivation, and stronger bonds or sense of belonging in the student/university learning community. This approach increases the demands on lecturers and support staff alike, and is

difficult to sustain. However, due to its small student cohort the College is uniquely situated to sustain this level of interaction better than most large universities, as long as adequate human and online resource support is provided..

Student Access and Equity

Access to education is regarded in Australia as a basic human right and the College must accommodate learners with special needs as part of ensuring that high quality educational experiences are available to every individual. A potential learner with a sensory impairment might, for example, need to use screen reader software to hear information instead of viewing it on a screen. Limitations in mobility might require the student to use an adapted keyboard to navigate the Web. These individuals are fully capable of participating and contributing to a learning community and the onus is on developers of distance learning programs to design material according to principles of universal Web design.

In the online environment, the needs of people with disabilities tend to go unobserved, and thus unacknowledged (Schmetzke, 2001). It is easy to overlook accessibility issues when there are numerous technical and administrative aspects involved in setting up a distance learning program. The College commitment to ensuring accessibility for students with disabilities is underpinned by the idea that while the resultant packages may not be used by everyone, they can be used by as many people as possible. Abilities are emphasised and disabilities de-emphasised. A single solution instead of multiple ones is the goal (Anders & Fechtner, 1995).

Computer and Information Literacy Levels

Differing levels of computer and information literacy among students, together with reticence among some mature age students to embrace the online environment, have presented problems with access to library online resources and participation in email discussion groups. These problems reflect the challenges of meeting the needs of individuals of different gender, age, educational training and level of computer experience.

Pedagogical and Technological Constraints

In any experimental environment a set of constraints will inevitably develop from the processes being implemented. Technological constraints that effect pedagogical issues include a lack of experience by lecturers in facilitating email groups and supporting students from a distance, small student numbers within email discussion groups that can exacerbate interaction problems and incompatibility problems if a lecturer uses a newer version of software than the student. The enormous amount of time it takes to transfer an on-campus course to distance mode should also be acknowledged and the flow on effect of simultaneously maintaining service quality.

Identifying appropriate models to facilitate interactivity in online learning communities has proven to be fraught with pedagogical danger. The proliferation of 'proven' models has made selection easier and radical interpretations have been avoided. Salmon's (2000) model of facilitating learning through interactivity is currently being trialed by the College as the model for its learning community.

Technology has been selected on the basis of its success in supporting the pedagogical needs of academic staff, the background and needs of the students and the ways in which it enhances the learning process. Distance learning content has been developed internally with the assistance of a special education consultant for the Vision Impairment stream. As Kriger (2001) has noted:

> *Technological capabilities and limitations should not be the primary*
> *factor driving the curriculum and research required of distance education students,*

rather than the rich interplay among research, curriculum and good pedagogy.

Lighthouses and Compass Bearings

In any perilous endeavour, the navigator welcomes a guiding light and a true compass to plot an ongoing course. The College has adopted a holistic approach to the evolution of its online community. It is envisaged that to build an online infrastructure that will foster sustainable relationships and learning processes, it is necessary to have a strong base that reflects (a) elements of what students require and (b) the variety of ways that technology can assist. The following cluster of issues has had an important role in strategic planning.

Technological Infrastructure

The advantage of face-to-face residential block courses, supported by online accessibility to course outlines, readings and information resources has allowed students greater flexibility and developed the peer support and interaction that are crucial for online sociability. A further positive issue is the wide acceptance of paper-based packages, complemented by online activity, which surmount some of the problems encountered with the emergent and sometimes fragile state of Internet technology.

Organisational Structures and Procedures

The College acknowledges the wide range of benefits from using a variety of modes of study over the course of an academic year. This multi-mode structure permits residential block attendance to counteract the isolated nature of distance study. The students themselves benefit from meeting their fellow students during the weeklong blocks. They often share the resources they have obtained either as a group or individually. Residential blocks also provide a forum to teach hands-on skills for the preparation of teachers of students with vision impairments.

A course collaborative team approach has proved an effective mechanism for transferring and modifying course material for distance learning mode. The collaboration of lecturers, librarian and administrative staff has lightened the burden of creating course material. It has also created a healthy respect by all involved for the amount of time and developmental work that is required for each collaborator's contribution to course material.

Partnerships with the administering organisation, (the Royal Institute), have also encouraged the following activities:
- some student's practica are arranged within the Institute's own specialist school environments
- guest lecturing by Institute staff during residential blocks
- after hours access by College students to the computer instruction classroom for personal or academic use during residential blocks
- proposed basic computer skills courses conducted by the Institute's educational trainer

Service Quality

The face-to-face interaction made possible by periodic on-campus attendance nurtures reasonably strong bonds between lecturer/student and support services. It gives a human face to the online communication that either precedes or follows the residential block courses, effectively refining general sociability into an online peer support system as well as student-lecturer interaction. Students have commented favourably about the high level of personal contact and support from academic and administrative staff.

Student Access and Equity
Course documentation created by lecturers or administrators can be converted into a format that will enhance student access through the University of Newcastle's Alternative Formats section. In addition, Blackboard courseware is moving towards making its software fully accessible. An interim solution has been developed through the provision of assistive technology guidelines that permit users to find solutions that optimise their access to Blackboard-based courses. The availability of universal web accessibility guidelines also fosters good design principles in the College's website development.

Computer and Information Literacy Levels
The products of enhanced teacher-student contact have been reflected in dynamic teaching and learning partnerships generated between lecturers and the librarian (Peacock, 2001). The need for greater student-teacher interaction has provided opportunities for faculty members and the librarian to work together in the delivery of flexible learning programs and in the development of information literacy skills. Lecturers have become more involved in embedding information literacy activities within course content and also in the selection of electronic resources. The librarian has become increasingly engaged with course content and planning as well as delivering tutorials and producing self-paced guides on assessment outcomes that make acquiring information literacy skills more relevant to students.

As well as providing individual assistance the library provides a wide range of training programs aimed at supporting a variety of learning styles. These include Internet research skills and training in the use of online databases, both on and off campus. To facilitate maximum access to the training programs, a CDROM was created that included a virtual tour, an interactive online journal database searching demonstration and self-paced guides. During 2001 this was complemented by an Online Skills tutorial (accessing library online resources from a distance) available during residential block attendance. In the current year, the self-paced guides have been reformatted as web-based material and two tutorials will be offered during the residential block attendance periods, focusing on development of online skills and Internet research skills. A PowerPoint demonstration of online database searching skills, available via the Library's web page is also proposed.

Much emphasis is placed on information literacy activities that address the development of information skills involved in locating, managing and using information for learning, research and professional purposes. Assessment of the extent of successful information literacy skill acquisition has been through self-evaluation, personal feedback about self-paced guides and an online feedback form. Results indicate that the integration of information literacy within relevant and immediate learning experiences has produced high satisfaction ratings and estimates of favourable learning outcome from students.

Pedagogical and Technological Enhancers
As a core concept within the notion of an *online learning community*, interactivity is essential to the facilitation of learning and sociability. Attempts have been made to create course materials with the capacity to motivate and engage learners in activity; to allow a student not only to engage in structured activities, but also to create and share activities with other students.

Email and online discussion forums have been used to replicate 'conversations' between students and lecturers with differing results, depending on the number of students in the groups. The College intends to experiment and build on this using Blackboard courseware in 2002.

A further important factor is the design of online materials to foster self-directed learning. This includes activities that the most and least challenged can access and enjoy. In support of the importance of this concept, Rieber notes that expecting everyone to learn the same thing, in the same way, at the same time is not supported by anything we know about learning and cognition (Rieber, 2001). It has also been noted that the more 'fun' an activity is or the more like serious play it is, the more motivated is the student to learn. A goal for the future design of College online materials should be to "look for ways to trigger or coax play behavior in people and then nurture or cultivate it once it begins, just as one looks for a way to light a candle followed by both protecting and feeding the flame" (Rieber, Smith & Noah, 1998, p.33)

While building a learning community to deal with the diversity of (a) students and (b) course content, as well as (c) within the new modes of delivery using "high" technology, it is important to reflect on several of the practices that are being developed (Brennan, McFadden & Law 2001). In future, for example, it could well be more effective to make online material more re-usable, not only in different applications or courses, but in format, for example, in CD, print, or online production. This strategy should not only reduce the burden on lecturer's reformatting of course material, but also allow more flexibility in sharing online resources, internally as well as, externally with other universities conducting similar courses.

Adopting an innovative approach, changing modes of delivery and learning about new technology are all features of program development that absorb a great deal of time and energy. One of the major positive outcomes of this particular focus is that *learning communities* are able to offer the benefit of mutual support for students and lecturers as they mutually reflect on and improve current practice.

Steering Full Ahead

The challenge for the College is to pursue processes that encourage the interactivity essential for developing the increased sociability of online communities in exchanging and sharing information and ideas. The College also has to steer a moderate course between traditional pedagogical approaches to learning that have limited and over-regulated the ordered provision of courses and content and the current online approaches that offer flexibility and constantly changing formats and applicability.

Beacons to guide our tiny craft through this 'e-sea' and provide protection from the terrors of technology with limited pedagogical benefit include:
- establishing a web portal specific to Renwick College
- developing an online, self-paced, interactive information literacy guide supported by an email group or bulletin board to improve student's access to online information resources
- investigating chat room / bulletin board support for College students
- fostering the need for students to develop information skills involved in locating, managing and using information for learning, research and work-based purposes
- developing expertise of academic staff in web content management
- investigating use of videoconferencing to support some components of courses
- experimenting with a variety of flexible delivery modes to ascertain the most holistic approach, especially in encouraging student interaction with each other and the lecturer within the learning process
- adopting benchmarking procedures to ensure that the quality of the distance education program is sustained

Conclusion

The perils for those who would "go down to the sea in ships and occupy their calling in the deep waters" of distance education, as are the rewards, are many. If the relatively rapid movement by Renwick College from a *centripetal* to a *centrifugal* model of academic program development has revealed anything to the authors of this paper, it is that *change* is constant. Meeting the challenges and opportunities it presents requires high levels of commitment and energy as well as constant adaptation on the part of those engaged in program development and delivery.

The challenge for the navigator (as it was for Ulysses in the Straits of Messina) is to steer the fragile craft between on one side of the strait the seduction of stolid conservatism, and on the other the whirlpool of radicalism (casting out the baby with the bath water).

A combination of factors is necessary for any new phase of online development in order that it prove successful. Online course development requires *active participants* and *active producers* as well as *sufficient resources* to support it. Other key requisites include a nurturing host organisation and a solid well-organised infrastructure. Technology can augment these requirements as the vehicle for extending opportunities for learning to new groups, making learning more efficient and flexible and enriching the learning process. However, all of these activities can best occur within a *learning community* in which the technology is not an end in itself. Rather, it complements solid, substantial course content and effective student/lecturer communication.

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