Using Online Courseware for Information Literacy Skills Development in a Multinational Program

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Information literacy skills are becoming a world-wide educational issue. Chalmers and Fuller (1996) suggest that we should not assume students commence university with the ability to develop sustained learning strategies that are consistent with the type of learning we wish them to acquire. This often results in students’ inability to make the best use of the learning opportunities with which they are presented. One skill of particular importance is information literacy.

The advancement of telecommunications technology has provided increased opportunities to service a broader cohort of students without sacrificing quality, and providing greater technical specialization otherwise only afforded to local and on-campus students. Indeed “exporting courses can raise enrollments to enable a school to teach more specialized courses than the economics in the local environment will allow” (Barnes, 2004). Additionally, administration and delivery of content, learning objects, assessments, and tutor materials are made simpler and more consistent using new technologies. From a School and university perspective this fortifies the quality and accessibility of our programs. It allows for crossing of cultural and physical boundaries. Yet, this global nature of education presents potential issues in both cultural, language and differing skill levels in relation to information literacy. Rader (2002) in a white paper prepared for UNESCO details the emerging global priority to create an information literate society for all countries in the world, in order to support the increasing digital information environment in which we live. This paper describes how one university in Australia is using new technologies to promote information literacy and how this lifelong learning skill is embedded in its degree courses.

EDUCATIONAL CONTEXT

Edith Cowan University (ECU) is located in the city of Perth in Western Australia. At ECU, the School of Computer and Information Science (SCIS) provides undergraduate and postgraduate courses in the areas of Computer Science, Software Engineering and Library Technology. There are approximately 1,400 undergraduate students taking a range of degree programmes. Courses are offered at two metropolitan and one regional campus in Western Australia as well as via five international partners located in Malaysia, Singapore, Sri Lanka and Kenya. In some cases, the international partners deliver the full degree programmes while, in others, a diploma programme based on the common first year of the School’s computing and IT degrees is offered. In addition, some of the undergraduate computing and IT programmes and all Library Technology programmes are offered via distance education with many students located in rural and regional areas of Australia. On-campus students in Australia also come from a wide range of backgrounds and educational contexts. For example, about 33% of SCIS students are International students coming from 45 home countries while 20 percent of Australian students come from non-English speaking backgrounds. More than 60% of undergraduate students are classed as mature age entrants with many joining the University via other educational institutions such as Technical and Further Education or private colleges delivering Diploma level courses.

Such a diverse range of locations and modes of delivery create particular challenges in ensuring uniformity of standards and content across units of study while the diversity of the student body fuels the need to develop information literacy skills across the broad range of undergraduates. In order to address the standardization issue, SCIS makes use of web based delivery of learning materials to both students and staff via a series of interlinked servers (proprietary named eCourse). Information literacy issues are addressed by including in the common first year the unit CSG1132 Communicating in an IT Environment.

INFORMATION LITERACY SKILLS

The Need for Information Literacy Skills

Selber (2004) asserts that whilst literacy has traditionally been the domain for English departments, computer literacy is the domain of the science department. Whilst this is not surprising there is some merit in the consideration that computer literacy is often inclusive of information literacy and whilst the technology provides the infrastructure for access to this, the use of the information should be back in the English department. Despite this, most university faculty and departments attempt to deal with these issues themselves. In SCIS, we take on the responsibility to develop outcomes for our students that include computer and information literacy.

Overseas students make up 30% of the student body in the School. This coupled with the off-shore institutions in Sri Lanka, Singapore, Kenya and Malaysia, means that the requirements to ensure that our students are information literate is of primary importance.

In general, human beings are not good at managing large volumes of information and the greater accessibility to information and its increasing volume is compounding the problem. From the community and university perspectives, information literacy is a skill that goes hand in hand with lifelong learning (Bundy, 1998, 2002; DEETYA, 1998). This results in tertiary institutions trying to balance educational objectives with society expectations and industry bodies. These stakeholders want graduates with the characteristics of lifelong learners and who are adaptable in a changing work environment. From the university perspective, all graduates are expected to possess certain attributes which include information literacy skills (Drew, 1996). ECU defines this as the graduate attributes of ‘Use of Technology / Information Literacy’. A student who possesses this attribute “has confidence, knowledge and skills in the selection and application of technology appropriate to their field of scholarship” (ECU, 2002).

Information literacy has become an important factor in tertiary education because of the changes to information access, technological advancements, and therefore access to complementary materials which we as educators expect the student to research and use. In other words the students need to be able to “locate, evaluate, manage and use information in a range of contexts ie be information literate” (Bundy, 1998). However, it should be acknowledged that skills of this sort are unavoidable-
ably generic yet defined specifically in different disciplines (Lupton, 2004). Assessment of these skills is therefore also problematic.

Whilst secondary level and high schools in Australia are also beginning to address this issue, as yet the usual cohort of students attracted to computer science courses still lack skills in this area. For this reason SCIS now provides students with a compulsory subject called “Communicating in an IT Environment” to address these deficiencies, as well as embedding the development of these skills further throughout its courses.

Addressing the Information Literacy Needs

Communicating in an IT Environment (CSG1132) is teaching generic skills within the information technology and computer science context (see Figure 1). As Lupton (2004) points out, such a unit promotes consistency in the development of skills within the specific discipline area and ensures that “information literacy is experienced in formal education through engaging with disciplinary content” (p.26). The assessment of these skills has been designed to be context specific, structured and formative. Whilst educators may disagree that structuring is a skill that you expect the student to display, the cohort for this unit are first year undergraduates, and we see that providing the structure for them leads by example in teaching the skills they need to develop.

A range of assessment types are used in CSG1132 to support student learning. As the assessments in this unit form a major part of the student learning process they are structured as follows:

**Assessment 1** focuses on the planning and investigation of a computer related topic. It explicitly leads the student through the formal stages of development of ideas using concept mapping, hypothesis formation, focus question development and research strategies. The next step is for students to undertake the research from a range of sources (books, academic journals and electronic materials), and academically assess each relevant item found. Finally, the refinement of a thesis statement is undertaken and a plan devised for the discussion of the thesis statement. This is a formative assessment and therefore each stage of the process described gives the student the opportunity for feedback on their progress.

**Assessment 2** is a more formal summative assessment where the student is required to write an industry styled report essay following the plan from assessment 1. The format for the assessment is consistent with the guidelines for best practice assessment listed in the 16 indicators of effective assessment in higher education (CSHE, 2002).

**Figure 1. CSG1132 Unit Overview**

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**CSG1132**

**Communicating In An IT Environment**

**Unit Coordinators**

Julie Johanna

**Lecturers**

Julie Johanna

Trish Williams

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**Documents**

Map for Mount Lawley Assessment Box

Unit Outline

Assignments

Feedback

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**Messages**

Reminder re this weeks lecture 30/09/2004

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this is a programme of academic staff development for offshore teaching staff. These professional development opportunities cover use of the research resources available, as well as more general discussion of pedagogical issues and ECU teaching and assessment standards (ECU, 2002). The visits are intended to establish and support open communication between the Perth based unit coordinator and all offshore teaching staff. This is further supported by the provision of teaching notes, making guides and exemplars via an area of eCourse accessible to teaching staff. This is further supplemented by strategic use of ECU library resources and targeted staff development, especially for offshore teaching colleagues. It is also important to ensure that remote and offshore students make the best use of all the resources available to them. Students require good information literacy skills to minimize the problems of limited resources and limitation in local infrastructure.

The Communicating in an IT Environment unit of study specifically teaches students lifelong learning skills in information literacy. It also ensures that all SCIS undergraduate students possess the necessary skills to successfully complete an undergraduate program which emphasizes self-directed, independent learning, regardless of their physical location or mode of study. The promotion of lifelong learning skills in information literacy are important attributes expected of our university graduates. For the School of Computer and Information Science with a diverse cohort of national and international, and on and off-campus students, we have found that this issue is most effectively addressed at the first year undergraduate level, using technology and the web to support this learning.

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