INFORMATION LITERACY AS A FRAMEWORK TO FOSTER LIFELONG LEARNING

Chrys Gunasekara & Sue Collins
Queensland University of Technology

ABSTRACT

It is well established that information literacy contributes to lifelong learning. This paper presents a strategy for embedding information literacy within an Operations Management subject, using the Australian and New Zealand Information Literacy Framework as the key ‘design principle’. Implications for the role of the librarian/library in information literacy are raised.

KEYWORDS

information literacy – lifelong learning – business curriculum

INTRODUCTION

It is well established that information literacy is one of the key enablers of lifelong learning capability (Bundy 2004, Andretta 2007). This is because information literacy equips learners with the tools and perspectives to engage in independent and critical thinking and towards addressing their own information needs: it helps people learn how to learn. This paper reports on a project that aimed to operationalise and embed facility in learning how to learn in the teaching and assessment of an Operations Management subject at the Queensland University of Technology, Australia. Operations Management is a management sub-discipline that deals with the transformation of inputs to the production of goods and services. Activities covered include: forecasting, planning, process design and layout, managing the service experience and quality.

The project centred on a major assessment piece which involved analysing the operations of a service firm and preparing a consultancy-style report and oral presentation on improvements. Students completed a series of weekly tasks that were designed using the Australian and New Zealand Information Literacy Framework (ANZIL Framework). The project was developed and facilitated by a teaching team that consisted of academic staff and a business liaison librarian who worked together within and outside the classroom. In the following section we discuss the relationship between information literacy and lifelong learning. This is followed by our conceptual framework and description of the method used in the project. The results of our project are summarised, followed by discussion and conclusions.

Information literacy and lifelong learning

Information literacy is widely regarded as a key enabler of lifelong learning because it fosters skills of identifying information needs and addressing these needs in the context of independent thinking. Andretta (2007) refers to the commonality of purpose in these two constructs found in the ‘learning how to learn ethos’ (p 152). Elsewhere, she contrasts the more recent emphasis on independent, contextualised, relational learning in information literacy education, albeit from a predefined framework of standards (Andretta, 2004, 2005), with the emphasis on tools to uncover subject-specific knowledge. In articulating the link between information literacy and lifelong learning, Andretta joins other authors such as Lau (2006), George et al. (2001), Bundy (2003) and Ward (2006) in speaking of a cultural shift towards a constructivist approach to information literacy wherein the roles of the teacher and the information professional are transformed towards facilitator, coach and enabler of students’ lifelong learning journeys.

The foundation and context of this embedded view of information literacy flows from growing attention being paid by institutions, including information literacy promoters such as the Australian and New Zealand Institute for Information Literacy (ANZIIL) and the American College of Research Libraries (ACRL), to lifelong learning. This is not, however, a completely new message. In the early nineteen nineties, Candy, Crebert & O’Leary (1994) conceptualised information literacy as embedded within enquiry, problem solving and lifelong learning. This seminal contribution drew upon the turn toward generic skills that emerged from the work of the Mayer Committee (Australian Education Council. Mayer Committee, 1992), grounded the notion of graduate attributes in lifelong learning. Subsequently, the Association for College and Research Libraries’ information literacy competency standards (2000) and the Australian and New Zealand Information Literacy Framework (Bundy, 2004) positioned information literacy firmly within the context of lifelong learning.
A key dilemma that has hampered academics and information professionals seeking to enact lifelong learning through information literacy education has been the availability of practical mechanisms to embed information literacy in business education beyond ad hoc library skills sessions. Although lifelong learning is now widely adopted as a key graduate capability (George et al. 2001), the embedding of information literacy has been slow. Our project was a modest attempt to advance the embedding of information literacy in a business setting through an academic/librarian partnership. For this purpose, the use of the ANZIL Framework as the core ‘design principle’ to structure the student assessment task is, we believe, a robust path to embed information literacy.

**CONCEPTUAL FRAMEWORK**

Our purpose in this project was to use the platform of an assessment task that involved analysing a real world service operation as a way of introducing students to the attributes and behaviours underpinning lifelong learning. As indicated above, the assessment task required students working in small groups to analyse the strengths and limitations of a set of service operations management processes in a real world firm, using a range of research methods, including personal observation. Processes selected may have included: layout of the operation, management of waiting lines and queues, and the service experience. This assessment task counted for 50% of the total final mark for the subject. We identified information literacy standards as a suitable conceptual framework that could be applied to construct an independent learning journey. This was embedded in the tutorial program and supported by targeted content inputs in lectures and in the tutorials themselves. Academics and a business liaison librarian worked as partners in the classroom to guide and support our students in tackling each step of their journey through a problem-based approach. Table 1 shows how we employed the ANZIL Framework to create a structured set of independent learning tasks that were undertaken by students in small groups.

<table>
<thead>
<tr>
<th>ANZIL Standard</th>
<th>Tutorial Activities</th>
<th>Learning Outcomes</th>
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<tbody>
<tr>
<td>1. The information literate person recognises the need for information and determines the nature and extent of the information needed</td>
<td>Identify operations management processes to analyse; determine sources of information needed, attendant ethics issues</td>
<td>Understanding of value of different types of information, possible sources and related ethics issues</td>
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<tr>
<td>2. The information literate person finds needed information effectively and efficiently</td>
<td>Identify key concepts to be explored in each process; construct search statements; search relevant sources</td>
<td>Effective search strategy enables retrieval of relevant information</td>
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<td>3. The information literate person critically evaluates information and the information seeking process</td>
<td>Discuss problems encountered; re-examine search strategy; re-examine search strategy; re-examine search strategy; re-examine search strategy; re-examine search strategy; re-examine search strategy; re-examine search strategy</td>
<td>Information seeking process is “evolutionary”</td>
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<td>4. The information literate person manages information collected or generated</td>
<td>Confirm how retrieved information is recorded/managed within group</td>
<td>References compiled in the required format</td>
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<tr>
<td>5. The information literate person applies prior and new information to construct new concepts or create new understandings</td>
<td>Analyse relationship between secondary information and primary findings; identify gaps</td>
<td>Knowledge and understanding extended; recommendations enabled</td>
</tr>
<tr>
<td>6. The information literate person uses information with understanding and acknowledges cultural, ethical, economic, legal and social issues surrounding the use of information</td>
<td>Reflect on information seeking process and ethical issues</td>
<td>Recognition of multiple issues associated with use of information</td>
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*Table 1: Application of information literacy standards to learning tasks*
Our intention was to make each of the standards the focus of a specific task or set of tasks that enabled students to tackle the objective of analysing a set of service operations in a real firm. This made the standards come alive because their application was contextualised in the subject content and in the assessment task.

The tasks and underlying processes to complete them were described in detail in a student workbook prepared for the tutorial program. For example, in relation to determining information needs (standard one), students were led through activities that involved identifying the service operations to be studied; applying relevant theory and context-specific conceptual material to unpack and articulate their the information needs and to then analyse possible information sources, classifying these sources according to ‘fit’ with theory and the purpose of the study, as well as accessibility. In this way, the framework for enabling lifelong learning was harmonised with subject content. We believe that the strategy of using the ANZIL framework to structure learning activities in assessment tasks is potentially a way forward in supporting the development of lifelong learners.

**METHODOLOGY**

This section explains how we implemented the conceptual framework in the classroom. The method used was consistent with a consultancy operation. Beyond introductory processes to explain the tutorial program and to form small groups, the tutorials operated as learning spaces for students to engage largely with each other in completing the set tasks as indicated in Table 1. In other words, students were provided with boundaries and a framework to guide them, but were then encouraged and enabled to discover and pursue their own independent learning journeys. This approach gave the information literacy standards relevance, credibility and integrity as a way for students to engage with real world operations management activities and processes, much like any management consultant might do when asked to analyse a process.

Taking a customer perspective meant that it was not critical for students to obtain access to potentially sensitive, confidential material firms. Using basic social science research methods such as observation, students could prepare an informed, credible analysis of several operations management activities and processes. As a starting point, it was suggested to students that they could collect useful information about operations by: making a layout drawing; making a process drawing; taking notes of the number of staff and their tasks, perhaps even task times; experiencing the service and reflecting on what they thought, felt and saw; talking to others they knew who had used the service and collecting information on their perceptions and making observations relating to location, capacity and bottlenecks. Students were encouraged to at least seek to interview the manager of the operation if possible and a small sample of staff. The key point is that the structure of the independent learning task was shaped directly and entirely by the information literacy framework that we used.

At each stage of the project the business liaison librarian, lecturer and tutors worked together as partners, within and outside the classroom. Individually and severally we had a stake in the process and in the outcomes of this experiment. Students were asked to reflect on some of the challenges they faced in determining what information was needed; possible sources of data and information and methods for collection; criteria for determining the quality of information sources and how the criteria may be applied to the actual information collected; and what additional information may be needed. Applying the information literacy framework, students were also asked to consider how they might classify and organise the information that they collected. This, in part, required students to reflect on the key elements pertaining to each of the operations management activities being studied, as well as the use of appropriate software (or some other method) to store their information.

Another tutorial task involved a comparison and contrast of primary and secondary sources. An important focus here was on critical analysis – laying side by side what the literature had to say about, for example, quality control, and what was uncovered in practice. This analysis could then be used to frame recommendations for improvements in practice and perhaps areas for further research. One of the final learning activities was a reflective piece of work on the ethical, legal and social implications of the information that was collected, the way it was collected, the way the information collected was analysed and the way recommendations were constructed. Pursuant to the objectives of the course and of the information literacy standards themselves, the purpose of this activity was to move beyond a perception that operations analysis was transactional in nature, to consider values and the role of the manager/analyst/consultant in framing meaning. This was an important step in fostering a lifelong learning approach.
The engagement of library and academic staff was a key aspect of our method. The liaison librarian participated in one of the tutorial classes, for all twelve tutorials across the semester. This was enabled by a Teaching & Learning Grant provided by the Faculty of Business, in part, to buy out a significant block of the liaison librarian’s time to participate in the project. This was supported by library managers who, in fact, agreed to the librarian participating in the project beyond the hours that had been paid for by the Faculty of Business. From the outset, an understanding was negotiated between the librarian and academic that, as far as practicable, participation would cover the gamut of tasks, from program design to facilitation of the learning activities in class. Given that all of these activities had been designed around the ANZIL Framework, we had a measure of confidence about taking this step. This was important so that we could start to move beyond the notion of a token library session. We reflect further on this aspect of the method in the discussion section below.

RESULTS

Our expectations of this project were modest. We did not aim or expect to produce lifelong learners in one semester, but we hoped that the strategy of tailoring learning tasks using the ANZIL Framework would be successful. The results of this project were measured in several ways. Firstly, we undertook pre and post testing of information literacy using a questionnaire adapted from a prior in-house instrument. The questionnaire tested students on their ability to interpret information needs, identify and discriminate between sources of information and organise information. The results showed a clear improvement in students’ capabilities. We report in more detail on this in a subsequent paper.

Secondly, we debriefed and reflected with our students to uncover their perceptions of the independent, constructivist teaching and assessment approach that was used in the subject. The feedback from many students, both during the program and in subject evaluations, was very positive in regard to the activities that were undertaken. Students seemed to value the integration of information literacy into the assessment task rather than presenting a library class or tying such a session to an essay: they spoke of “the approach to learning operations management”, “the practical focus” and “the methodical way that you structured the program”. This was encouraging indicative evidence that the strategy of using of the information literacy framework as a light for the lifelong learning path had had some success as ‘the software’ behind the learning journey. The liaison librarian’s participation in all tutorials offered students the added dimension of informal discussion with an information specialist: as students worked through the tasks, their questions evidenced an increasing understanding of the use of information, applied as it was to a discipline-specific focus.

Thirdly, we reflected on the quality of reports submitted by groups. The end product of this consultancy style project was a written report and oral presentation. The quality of these deliverables, in many cases, was superb. The teaching team members pointed to several examples of exemplary work, which was consistent with their observations of group processes and progress during the tutorial program. But, not all students enjoyed this approach. Feedback from tutors and from a minority of students indicated discomfort with the degree of self-efficacy expected in the program. This was evident, to some degree, during the program, when we observed instances of disengagement and resistance to undertaking independent learning activities rather than more straightforward application exercises.

DISCUSSION AND CONCLUSION

The results indicate that this project was successful in piloting a strategy to embed information literacy in a business subject. This, according to the literature, is a key element in the enabling power of information literacy education towards lifelong learning. There are several issues that may be raised which relate to the role of academics, liaison librarians and also the impacts on students.

It has been difficult for some academics to grasp the scope and breadth of lifelong learning and of the power of information literacy education as an enabler. It has also been difficult for librarians to sell the benefits of information literacy to academics. We believe that our project made significant headway in addressing this blockage. Our approach was experimental to a degree and will need to be tested further before firm conclusions can be drawn about its efficacy. Based on students’ feedback and our observations, the concept of using information literacy standards as a way of embedding lifelong learning in the core content of business courses is promising. From the academics’ viewpoint, the power of the approach taken in this project was that information literacy was not something to be accommodated as a concession to the library’s prompting, as valid and important as this may be. Rather, information literacy offered a solution to a problem that we owned – to develop an
effective learning strategy to help our students to engage with the processes and techniques of Operations Management. As indicated earlier, this had proven to be a real challenge for us. This was the ‘hook’ that awakened our interest, and now passion, for information literacy in fostering the journey towards lifelong learning in our students. From a tactical viewpoint, we believe that this logic has real power in the way information literacy is positioned and applied in university education.

Collaboration between liaison librarians and academics is an area of ongoing debate in the library and information literacy literatures. Increasing attention is being devoted to this aspect of information literacy education because it is seen as an important condition for delivering embedded programs effectively. The rhetoric of partnership has been difficult to deliver in practice, though not for want of trying by librarians worldwide. Although we proffer no magic bullet to this issue, we believe that the approach taken in this project does contain the seeds of a strategy for giving lift and renewed relevance to information literacy and lifelong learning in the commons. For the liaison librarian in this project, the opportunity to blend information literacy with discipline-specific content was a positive step towards the ultimate goal of offering an embedded, sequential program through a course of study. To achieve such a goal will require not only a commitment by both faculty and university, but also a strategic approach by the academic library to achieve such programs. The tension between academic libraries’ support of both teaching and research, and the provision of core services to the academic community is real and challenging. On the one hand, we are committed to facilitating deep learning through embedded, integrated approaches and we often see missed opportunities in information literacy initiatives that could be better connected to context. On the other hand, this can be problematic amidst increasing demands placed on liaison librarians as universities seek to strengthen their research cultures and as library systems and practices evolve. Attendant factors have been discussed previously in the literature, and continue to be debated.

From the student perspective, as indicated above, some were concerned about the degree of independence and loosely structured boundaries and processes employed in the assessment tasks. This points to one of the risks in using information literacy education to support lifelong learning, particularly with assessable tasks. It is important to provide adequate supports for students and perhaps to take a case management approach to engaging with students. This is an area that warrants further study and it is problematic to draw clearer conclusions based on one case.

We did not try to measure the impact of our work on lifelong learning. At present there is more extant literature on measuring information literacy in a technical sense, for example Neely (2006), than there is on the link between information literacy and lifelong learning. If we are serious about linking these two important constructs, then better metrics and tools are needed. Certainly, a key to building this link is to embed information literacy in an ordered, programmatic way across curricula and not just in individual subjects.

Regrettably, there is a perception in some quarters that information literacy is an add on capability in business education, perhaps even a relatively less important capability and worse still, one that is elementary and largely the province of the librarian. For some, this means that, if any attention is paid at all to this area, it consists of a cursory ‘library skills session’ provided by library staff or a handout or a web site link given to students. Worse than the uninformed professional orientation that this perspective indicates, this thinking deprives our students of important formation that carries long term benefits for their employers and lifelong benefits for themselves. We, therefore, continue to seek improvement in the design and operationalisation of the links between information literacy education and lifelong learning.

REFERENCES


