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The whole is greater than the sum of the parts: Using holistic approaches to teaching and learning to develop library and information professionals

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Abstract: *In late 2003, Queensland University of Technology (QUT) endorsed a Teaching Capabilities Framework which aims to better understand both the teaching and learning environment of the university and the skills and capabilities which constitute good teaching practice. This framework encompasses four key dimensions which encourage academic staff to adopt active, interactive and deep learning approaches to foster quality student learning outcomes: Engaging learners; Designing for learning; Assessing for learning; Managing for learning.*

This paper draws on the Teaching Capabilities Framework to evaluate the teaching practices within the Graduate Diploma of Library and Information Studies course at QUT. The world of libraries and information agencies in the 21st century is highly dynamic, with technology driving innovative developments in the management and use of information. Focusing on four core units of the course, the paper reflects on the students' journey to develop the knowledge and skills they will require for their future careers as information professionals. The teaching team has adopted a holistic approach to teaching and learning, centring on the finely developed relationship between assessment, learning activities, learning supports and learning resources. Accordingly, the curriculum covers not only discipline-specific issues, but also includes the development of the individual personal and interpersonal attributes which characterise the well-rounded, competent and confident new professional. Curriculum development has been informed by two university-funded teaching and learning research projects, one to examine emerging discipline knowledge issues and one to identify key generic capabilities, keenly supported by industry practitioners and the professional association.

Keywords: *Holistic approaches to teaching and learning; Teaching capabilities; Best practice; Library science education; Curriculum development; Generic capabilities.*

Introduction

During the course of 2003, staff of the Teaching and Learning Support Services (TALSS) at Queensland University of Technology ran a series of focus groups for academic staff to encourage discussion about the teaching and learning environment of the university and the skills and capabilities which constitute good teaching practice. The principal outcome from the process was the development of the university's Teaching Capabilities Framework which aims to "guide and steer the effective development of practice and scholarship in teaching and learning" (QUT, 2003) and to inform a range of academic activities, for example in the areas of staff development, supporting communities of practice and the processes of evaluation and continuous improvement.

This paper draws on this framework to review the teaching practices within the Graduate Diploma of Library and Information Studies (GDLIS) course offered by the Faculty of Information Technology at QUT. The goals of this postgraduate course are to provide graduates with both the theoretical knowledge and practical skills required by library and information professionals. The world of libraries and information agencies in the 21st century is highly dynamic, with technology driving innovative developments in the management and use of information. These factors impact directly on the academic programs which provide the education and training for new graduates entering the library and information services (LIS) sector. While some traditional elements of librarianship remain important, the desired skill set for information professionals is rapidly expanding into new areas of knowledge.

We have adopted a proactive approach to ensuring that the LIS curriculum offered remains current and relevant. In 2002, we were awarded a university funded Teaching and Learning Research Grant to investigate the generic capabilities or graduate attributes which were needed by LIS professionals. This work has been followed by a Faculty of Information Technology Teaching and Learning Research Grant to investigate the current and emerging areas of LIS discipline knowledge. These two research projects, together with the holistic approaches to teaching and learning that underpin the course, ensures that QUT is able to offer a progressive curriculum which covers not only discipline-specific issues, but also includes the development of the individual personal and interpersonal attributes which characterise the well-rounded, competent and confident new professional.

QUT Teaching Capabilities Framework

In the QUT Teaching Capabilities Framework, the scholarship of teaching practice encompasses four key dimensions (QUT, 2003):

- *Engaging learners*
Engaging learners in the process of learning involves teachers adopting and fostering active, interactive and deep learning approaches so that learners can interact meaningfully with the concepts, materials, processes and people in a course.
- *Designing for learning*

Designing for learning requires planning and design of appropriate curriculum, activities, environments and assessment to support student learning and achieve planned student learning outcomes.

- *Assessing for learning*
Assessment informs what and how students learn. Setting appropriate and challenging standards, assessing the learner and their learning progress (through diagnostic, process and outcome assessment) are integral to learning process.
- *Managing for learning*
Managing teaching and student learning is enhanced by effective administration and organisation of time to plan and generate resources, organise and plan systems and people. It requires an engagement with the policies and organisational priorities that impact on teaching and learning.

These four dimensions serve as overarching principles which can be expanded into a set of contextual elements which cover pedagogical / organisational knowledge, discipline, curriculum, learner, environment and scholarship. Each of these contextual elements can be exploded into a set of scholarly goals which academic staff and teaching teams can draw upon to identify relevant and meaningful capabilities which can guide their own approaches to teaching and learning. A diagrammatical representation of the Teaching Capabilities Framework is presented in Figure 1.

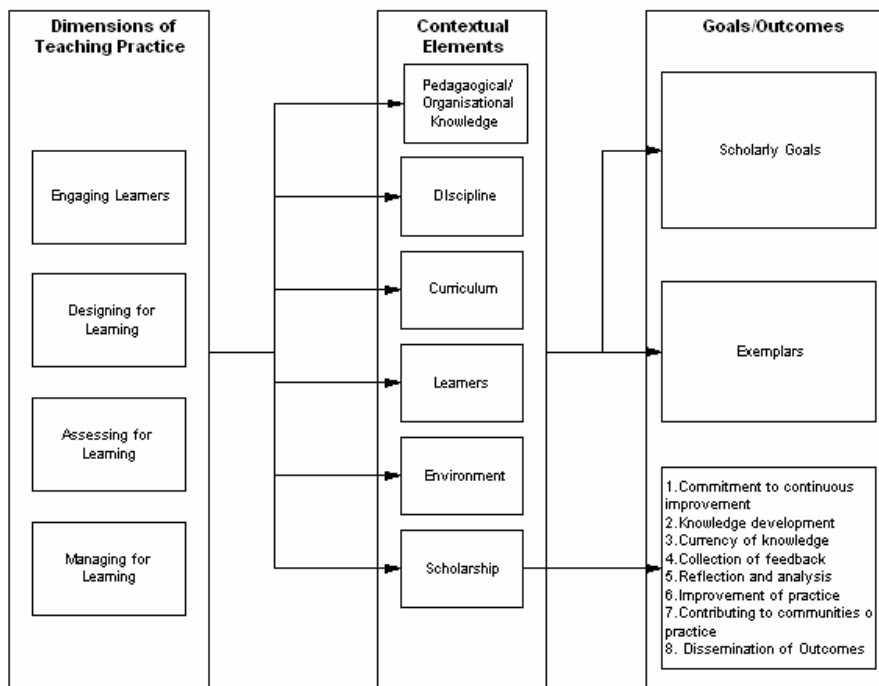


Figure 1: Map of QUT Teaching Capabilities Framework (QUT, 2003)

The Framework includes some basic guidelines, or possible contexts, for the use of the framework. Our interest in holistic approaches to teaching and learning inspired us to use the framework as the basis of an evaluative review of the four core units of the GDLIS academic program.

The academic program

New LIS professionals will be working in a rapidly changing, information-intensive working environment. The employment market is wide-ranging, covering the commercial firms, government departments and various types of information agencies, including public, academic, State and National libraries. This means that, as graduates, they will need to not only have the ability to combine theoretical discipline knowledge with the practical application of this knowledge in diverse situations, but to also embody a range of “holistic capabilities which represent the links between disciplinary knowledge and professional skills” (Bowden and Marton, 1998, p.12). In accordance with guidelines from professional bodies such as The International Federation of Library Associations and Institutions (IFLA) and the Australian Library & Information Association (ALIA), the development of students’ generic capabilities has become a significant component of the GDLIS course at QUT.

The course is studied as a one year full-time or two years part-time program and comprises eight units of study, seven of which are core units. Three units, *Information Organisation*, *Information Sources* and *Information Resource Provision*, focus on the ‘core knowledge areas’ for LIS work. In addition, these units include the development of generic capabilities such as written and oral communication, critical thinking and problem solving, teamwork skills, project management, information literacy and reflective practice. The unit *Professional Practice* provides the opportunity to develop the practical understanding of these areas of discipline knowledge through fieldwork placements. Students produce a professional portfolio to present evidence of their learning outcomes and their growth and development throughout the course.

The evaluative review of holistic teaching practice

While the QUT Teaching Capabilities Framework presents a comprehensive range of scholarly goals that are mapped to the contextual elements within each dimension of teaching practice, it goes beyond the scope of this paper to review the four core units from the perspective of each of these goals – a total of 98 goals within the complete framework. Instead, we have focused on how the framework can be used to critically reflect upon the holistic approaches to teaching and learning which are central to the GDLIS program.

Holistic approaches to teaching and learning offer a broad perspective of learning that stretches beyond the academic achievements of an individual, to consider the development of the whole person. Central to our teaching philosophies is the deep-seated desire to see students achieve. Students, especially postgraduate students, have come to university to learn and they are striving towards new career opportunities. We both believe that it is essential to facilitate their learning and to help them reach their goals through intellectual and personal growth. We hope the students develop a real love of learning and a life-long desire to go on learning

beyond the classroom. Our student-focused approach impacts on course planning and design: we know we need to be flexible to work with the range of students enrolled in a course, with differing levels of knowledge, diverse learning styles and the highly individual hurdles each person faces. The halcyon days of the full-time student are rarely encountered: the majority of students are working and caring for family members in addition to their studies. We feel it is essential to show respect for the individual students and, through an understanding of the challenges they face in their learning environments, to inspire them to reach their goals.

Using the four dimensions of teaching practice of the Teaching Capabilities Framework to guide us, we have set out to appraise three principal components of holistic learning – the learner (*Engaging learners*), the learning process (*Designing for learning* and *Assessing for learning*) and the teacher (*Managing for learning*).

Engaging learners

Our approaches to teaching and learning in the GDLIS are strongly learner-focused, with the goal of fostering “learning with understanding” (National Research Council, 2002). The National Research Council (NRC) outlines seven principles of learning which reflect the constructivist pedagogical strategies used to encourage active, interactive and deep learning approaches, taking into account diversity within the student cohort:

1. Learning with understanding is facilitated when new and existing knowledge is structured around the major concepts and principles of the discipline.
2. Learners use what they already know to construct new understandings.
3. Learning is facilitated through the use of metacognitive strategies that identify, monitor, and regulate cognitive processes.
4. Learners have different strategies, approaches, patterns of abilities, and learning styles that are a function of the interaction between their heredity and their prior experiences.
5. Learners’ motivation to learn and sense of self affects what is learned, how much is learned, and how much effort will be put into the learning process.
6. The practices and activities in which people engage while learning shape what is learned.
7. Learning is enhanced through socially supported interactions.

(National Research Council,
2002, p.119)

These principles encapsulate our goals of helping each individual student engage in their learning so that each one develops a clear understanding of his or her own knowledge and skills within their professional and personal contexts. Increasing attention is paid to “the fact that cognitive, social, and emotional processes are inextricably linked” (Cove and Love, 1996), to acknowledge that learning is facilitated or hampered by emotions, that emotions drive learning and memory, and that depressed mood states are often correlated with decreased motivation in the classroom. Consequently, to achieve deeper levels of learning, students need to be engaged on these different levels – cognitive, social and emotional – which is believed to involve the engagement of “both the left and right brains” (Macleod, 1996).

Grauholz underscores the importance of recognising students as “multifaceted people who have very active lives, rich backgrounds, and multiple intelligences that are all integral to the learning and teaching process” (2001). When we know our students, we can draw upon their experience and background to add more textured dimensions to the learning context. Social events are interwoven with more formal learning activities, so that students have the opportunity to make friends with their peers to establish a supportive learning community. Peer Assisted Student Support (PASS) sessions offer another avenue for collaborative learning. Valuable learning beyond the classroom is achieved through the mentoring program run jointly with the professional association, ALIA, which involves students being paired with an industry professional.

Students are also encouraged to strive for balance in their life and are provided with guidance about the ‘student wellness’ program offered by the university. The core philosophy of wellness considers “the integration of many different components (social, emotional, mental, spiritual and physical) that expand one’s potential to live (quality of life) and work effectively and to make significant contributions to society” (Corbin, Lindsey and Welk, 2000). Accordingly “the university has a responsibility to recognise all aspects of students’ lives were of equal importance and to ensure they finished their studies prepared for healthy living in the real world” (*Inside QUT*, 1999). This holistic view of student learning requires coordination across the faculty and student affairs areas of the university to develop the concept of learning communities that are able to provide social, emotional and intellectual support for student learning.

We motivate and engage students through our own natural enthusiasm for and love of the LIS discipline. We bring a strong empirical understanding of library and information work to the classroom, having worked in public, State and corporate libraries so that our discussion of theories is supported by examples and evidence from the real world. The key objective is to develop new graduates who are enthusiastic and confident about their new profession – a dynamic and exciting world of information management. In terms of curriculum content, this not only encompasses the need to acquire sound disciplinary knowledge, but also to develop the personal attributes and attitudes which will ensure a successful career as an LIS professional. At the highest level, we believe that our holistic approach to teaching successfully promotes “student learning and growth on levels beyond the cognitive” (Grauerholz, 2001, p.44), so that the personal and professional dimensions are inextricably intertwined. The importance of the design of learning activities to achieve holistic learning outcomes cannot be underestimated.

Designing for learning

The curriculum of the four key units reflects our learner-centred approaches which emphasise individual development and focus on “the needs, interests and purposes of students” (Print, 1993, p.99). This enables learning tasks to evolve through teacher-student interaction, with a high degree of individualisation which allows students to focus on specific topics of interest within the general framework of the syllabus. A sense of ownership and a stronger commitment to learning are positive benefits of this approach. As a form of independent learning, individualisation provides a valuable

balance to the group work that is integral to the development of generic skills such as working in teams.

Learning outcomes are clearly identified for the individual units as a whole and for the component learning activities. There is strong alignment between the learning outcomes, learning activities, assessment tasks and supporting resources. The four units, and the key resources for each unit such as online teaching sites, assessment guides etc, reveal considerable cohesion and consistency, so that a well structured, safe learning environment is provided for students. In any unit, they are happy to discuss their learning in one of the other units, and find it difficult (unnecessary?) to make distinctions between the two of us for the respective units – even though Helen teaches in only two of the four units. Grauholz (2001) indicates that the safe learning environment will encourage students to express their own views and feelings openly, without fear of reprisal. Learning becomes a dialogue between teacher and learner and between the learners themselves.

We have endeavoured to provide a wide range of learning experiences, with considerable variety in format to accommodate different learning styles. Fink indicates that “a holistic learning environment includes both elements of passive learning and elements of active learning” (2003, p.106). Miller also stresses the need for a balance between transmission learning to acquire factual information, transaction learning that involves solving problems and developing cognitive skills, and transformational learning that focuses on “physical, emotional, aesthetic, moral and spiritual growth” (Miller, 1999, p.46). In the GDLIS there are still some ‘traditional’ lectures, although these are kept to a minimum, with a preference for active and interactive learning environments provided through workshops, colloquia, seminars and group discussions. There are opportunities for individual students or teams to run the sessions, working either independently, with academic staff or with industry practitioners.

Different technologies are integrated into the learning environment to provide interactive and challenging learning activities, as well to foster the students’ confidence in working comfortably in the digital world. An online learning activity was developed to simulate a training package designed for new members of staff in QUT Library. This learning module was designed to encourage students to explore and learn about both print and electronic resources which are relevant to reference work. Students were asked to contribute to the further development of the learning module by providing an evaluation of the module. While feedback from the students indicated that they really enjoyed – indeed became engrossed in the module – the positive learning outcomes were evident in the quality of work produced in the subsequent assignment on the evaluation of reference sources. Students are regularly involved in pilot projects for the university, for example to trial software applications such as the Student Capability Profile (SCP) to support and record the development of generic capabilities, the online Student Portfolio to enable students to develop a comprehensive record of all of experiences that are relevant to their life as a graduate and beyond, and more recently the QUT TeamWorker project which is a online tool to support group activities.

We encourage creativity through the design of ‘hypothetical’ situations that emulate the real world. One major group project assumes that the team has just commenced

work with an independent library and information consultancy firm called InfoServ which has been asked to conduct a detailed evaluation of an 'real' Information Service. This hypothetical scenario therefore leads into an authentic learning activity, which simultaneously offers students the opportunity to balance structured learning activities with an element of choice to tailor their assignment to their areas of personal interest. "Learning by participating in a real situation is certainly a powerful way of acquiring knowledge, skills and values" (Print, 1993, p.179). The learning task also enables students to tailor their study to specific areas of interest or possible career paths, choosing to focus primarily, for example, on public libraries or law libraries, or to select specific issues confronting reference services, which they find particularly interesting, and to examine these in greater depth. Such a strategy facilitates the engagement of the student in their learning and motivates them to achieve deeper levels of learning. It can also support peer learning, as often one student may have some experience in the particular context the group has chosen to examine.

In another assignment, students are asked to develop a poster for an imaginary conference with a series of poster presentations. The 'conference' is then realised at the end of semester when we host an actual poster forum with the opportunity for students to network, socialise and discuss their work with invited guests from industry, receiving real prizes sponsored by a local bookstore. In all four units, we have found it valuable to invite LIS practitioners to address the students so that they can share insights into their understanding of specific issues. This has encouraged practitioners to be genuinely interested not only in the program offered by QUT, but also in the new knowledge and skills the graduates take with them. At the same time, students benefit in terms of discovering how some aspects of the course that may not have been enjoyed were a necessary part of the profession, raising awareness about their learning that the academic material in other units had not. Our holistic approach to teaching and learning is therefore clearly evident in our desire to establish linkages between the disparate elements of the education process and to find a balance between "individual and group learning, analytical thinking and intuitive thinking, content and process, and learning and assessment" (Miller, 1999, p.46).

Assessing for learning

Appropriate design of assessment is crucial for effective learning. Bowden and Marton believe that a holistic, or "integrative" approach to assessment (1998, p.162) can drive the teaching and learning process. There needs to be clear articulation of teaching and learning objectives, not only at the individual unit level, but also in terms of the relationship between the unit objectives and the overall course objectives. The correlation between assessment and student learning outcomes is therefore critical. Ramsden (1992) discusses the importance of "more developed models of assessment" (1992, p.186). Simple models of assessment can be regarded "as an addition to teaching, rather than an essential part of it" (p.183), that is "something done *to* students" (p.183), which inevitably results in a surface approach to learning. On the other hand, "assessment which is the servant rather than the master of the educational process will necessarily be viewed as an integral part of teaching and the practice of improving teaching" (p.186).

As technological, social and economic changes rapidly modify modern day library and information work, as LIS educators we need to consider how best to assess the

ability and knowledge of future information professionals – even when the future itself is still being defined. The design and development of the assessment in the four key LIS units are focused by the question: “How can we assess students in a way that addresses their capacity to handle situations in the future that they have not previously encountered?” (Bowden & Marton, 1998, p.167). They advise teachers to “assess the capabilities which... have been shown... to be central to dealing with the unknown future, viz. discernment and simultaneity” (p.167), so that the “assessment tasks [students] are faced with must require them to discern what is relevant and deal with the situation accordingly” (p. 167). The ability to distil the critical aspects of any given situation is a vital factor to help students learn to deal with the uncertainty of future events. The group assignments have a strong focus on the task of “discerning what is relevant”. By engaging with ‘real life’ services and professionals, these authentic assessment tasks allow students to develop their understanding of the current issues and challenges being faced by industry, as well as developing the more generic communication, project management and teamwork skills.

In addition, students are asked to engage in the process of peer and self-assessment. Reflective practice has an important role to play in the students’ own active process of learning to learn, enabling students to establish the links or connections between their personal lives and their coursework. Herman (1992) discusses the meaning of “good assessment”, drawing on the findings of cognitive research which indicate that “meaningful learning is reflective, constructive and self-regulated” (p.75). He goes on to state that “to know something is not just to have received information but to have interpreted it and related it to other knowledge one already has” (1992, p.75). Reflective practice therefore has significant value in the context of ipsative, or self-referenced, assessment.

A range of formative and summative assessment strategies are used in all four units. Individual student work can be submitted as a draft for formative feedback, while student project teams are asked to book a feedback session in the middle of the semester, to enable the team members to discuss concerns or problems openly with us and to obtain personalised comment and support. Students receive full and detailed summative feedback on the work they have submitted at the end of the semester. Criterion-referenced assessment, generally reflecting the attributes of Bloom’s taxonomy, is used in all four units. Consistency is achieved in terms of the overarching expectations for the quality of postgraduate work, with a common rubric of desired levels of performance given to students in the four units.

Managing for learning

Grauholz (2001) warns of the risks that are associated with being a holistic teacher. While some of these risks are organisational, associated with the introduction of innovative, non-traditional approaches to teaching and learning, the personal dimension of potential overload is also discussed. “Holistic teaching requires considerable emotional investment and time. Instructors adopting holistic teaching methods may find that they need to be accessible to students outside of class, attend student events that allow for more informal interaction, plan and facilitate activities outside the classroom, maintain an open and supportive attitude, and spend time simply listening to students: (Grauholz, 2001). We believe that our most successful strategy to manage the risks has been team teaching.

We have worked together in a team teaching role for three years, in both the *Information Sources* and *Professional Practice* units. We believe that our collaborative work, supported by our shared teaching philosophies and a strong professional and personal relationship, can be regarded as a valuable representation of the five guidelines for effective teaching collaboration presented by Bennett, Ishler and O'Loughlin (1992): a genuinely equal relationship is present; the differing knowledge bases are of equal importance; we are both committed to engaging in ongoing dialogue and mutual enquiry; we have the opportunities to experience each other's reality in a mutually supportive environment; and any issues and problems that arise are discussed openly.

The success of our team teaching arrangements is based on our complementary teaching styles, resulting in benefits such as those recognised by Bradshaw and Hinton (2000): "It was felt that team teaching would allow them to add spice to the course content, model appropriate communication skills and add more enjoyment to their teaching commitment. Team teaching also offered some added attractive practical benefits: livelier and less formal classroom atmosphere, a cooperative learning environment as modelled by the lecturers; decreased workload and decreased workload stress." The team teaching context stimulates the willingness to try and test new strategies, to mutually reflect on and evaluate the impact on learning and to then further refine these to develop a path of continuing improvement. Positive outcomes can then easily be adapted for other units with little or no risk.

As teachers, we see ourselves as models for the students, with the integrated aspects of our own lives – simultaneously being teachers and learners, each with our own rich academic, professional and personal lives. While critical reflection is an important aspect of our teaching, we also seek feedback on the learning activities, either through informal discussions with students about their experience in the units, through group discussions or questionnaires, or through the formal university evaluation process. The feedback from students validates the approaches we have adopted in our teaching. Many students remain in contact after graduation, sending excited emails to share the news of a new job offer, and keeping in touch to provide information about the direction their career is taking. The relationship of teacher and mentor evolves comfortably into one of friend and professional colleague.

Conclusion

The four key dimensions of the QUT Teaching Capabilities Framework, *Engaging learners*, *Designing for learning*, *Assessing for learning* and *Managing for learning* have provided a useful structure for the evaluative review of the holistic approach to teaching and learning in four core units in the GDLIS program. Interestingly, Miller does not view holistic teaching as being particularly novel or innovative, but rather as a return to basics: "It asks that we see our work as more than just preparing students to compete with one another. Although we must still teach skills to ready students for the workplace, we need a broader vision of education that fosters the development of whole human beings" (Miller, 1999, p.48).

At graduation, one student commented that while she expected to learn a great deal about information work and libraries, she was amazed about how much she had learnt

about herself during the course. One of the exciting areas of working with students, especially with mature learners, is the way that students can become aware of the changes they experience within themselves, as noted by Marton and Booth: “This is *learning as change as a person*, the most extensive way of understanding learning in that it embraces the learner, not only as the agent of knowledge acquisition, retention and application, and not merely as the beneficiary of learning, but also as the ultimate recipient of the effects of learning” (1997, p.38). Accordingly we strive to develop units which focus on content that is topical and relevant, but which at the same time help develop the individual dimensions of the students so that they graduate with a sound understanding of the professional and personal attributes that they will need to succeed in their new careers as LIS professionals. This means that, beyond the subject-specific knowledge, we encourage the students to develop skills which will be valuable throughout their career, in other studies they may undertake and in their personal lives. In this way, the whole is greater than the sum of the parts.

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