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**IT + LIS = the perfect partnership for the twenty-first century!
The Queensland University of Technology (QUT) formula for success.**

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Abstract

As a discipline, library and information science (LIS) has a great deal to offer the academic and professional communities of which it is part. This paper discusses some of the strategies used in the library education program at the Queensland University of Technology that have resulted in recognition as a key player in holistic learning within higher education, as well as building strong partnerships within the LIS profession, within the Faculty of Information Technology, within the university itself and higher education generally. Involvement in key teaching and learning projects has meant that LIS educators are acknowledged as playing a pivotal role in the future development of Faculty teaching and learning initiatives and in the future direction of LIS education in Australia. A model is presented that can guide other LIS educators as they strive to develop collaborative partnerships which will see their discipline at the forefront of university activities.

Introduction

The Graduate Diploma in Library and Information Studies (GDLIS) offered at the Queensland University of Technology (QUT), like so many other Library and Information Studies (LIS) courses, prepares its graduates for entry into the competitive and challenging LIS industry. Unlike many other LIS courses, the GDLIS program at QUT is housed within a Faculty of Information Technology. One significant challenge for the GDLIS educators at QUT has been to determine how to best establish a meaningful relationship between LIS and IT, to the extent that the Faculty of IT (and indeed the university) would question how it had survived without the GDLIS to begin with. The solution to this challenge has been to forge strong collaborative partnerships both within the Faculty of IT, and within the university, and in return to offer new LIS industry partnerships to the faculty.

The GDLIS has over the last few years established a reputation for excellence in building a student-centered learning community. This learning community is the direct result of the joint relationships between students, academic staff, industry practitioners and the professional association, all working together to develop a well-rounded, competent and confident information professional for the twenty-first century. It is this area of excellence that has allowed LIS to forge effective collaborative partnerships. The success of the GDLIS teaching team in meeting their challenge has meant that the GDLIS program has been placed front and center in the faculty and the university (and in higher education as a whole) as a discipline at the cutting edge of holistic learning, where the

student demonstrates a balance between being discipline savvy as well as skilled in the area of generic capabilities.

This paper discusses the strategies used by the GDLIS teaching team that have lead to LIS being recognized as a key player in developing well-rounded graduates within higher education, and which have resulted in the forging of strong partnerships within the LIS profession, with the Faculty of IT, within the university and in the higher education sector generally. The paper is divided into three parts. Part one considers generic capabilities. A brief picture of the role of generic capabilities within higher education is presented, highlighting the significance of transferable skills in the context of the Queensland University of Technology. Part two briefly describes LIS education at QUT and outlines one specific teaching and learning project that has helped move LIS education into the forefront of university activities. Part three will delineate the LIBRARY strategy that has contributed to the success of the GDLIS program at QUT.

Generic Capabilities

A Definition

In recent years a growing interest has emerged within the higher education sector to help students develop life skills that can allow them to “function across different cognitive domains or subject areas and across a variety of social, and in particular employment

situations” (Bridges, 1993, p.45). Skills such as problem solving, critical thinking, effective communication, teamwork and ethical thinking are all examples of the life skills in question. Together these life skills form the core set of workplace skills and abilities desirable in graduating students and new employees. They complement the discipline specific skills and professional knowledge acquired by students through their university study. Within the literature many synonyms have been used to refer to this core set of skills. Such synonyms include ‘transferable skills’ (Atlay & Harris, 2000), ‘key competences’ (Mayer, 1992) ‘generic skills’ (Oliver & McLoughlin, 2001) and ‘graduate attributes’ (Down, Martin, Hager & Bricknell, 1999). For the purpose of maintaining consistency within this paper and to link the current work to that being undertaken by QUT in its role as a member of the Australian Technology Network (ATN) (Bowden, Hart, King, Trigwell & Watts, 2000), the term *generic capabilities* will be used to refer to these skills and abilities.

Generic Capabilities and Higher Education

The concept of developing a student’s generic capabilities has become increasingly popular in recent years in universities in Australia and overseas. This popularity reflects the increasing interaction between industry and education, specifically in terms of the responsibilities of the university sector as a supplier of employees to the marketplace. For example, in 1996 Gush suggested that industry “occupies a high profile as a stakeholder of higher education” (p.4), recognising the role and responsibility of higher education as a provider of graduates to industry. According to Woollard (1995) it is

therefore not unreasonable that industry employers should be interested in what graduates know, understand and can do. It is not surprising then that industry groups and professional bodies have begun to strongly advocate the need for universities to offer courses that more adequately meet current industry and marketplace needs. One area that is being targeted for consideration is that of generic capabilities.

Indeed, findings from a recent poll of employers commissioned by the Australian Department of Education, Training, Youth Affairs (DETYA) (AC Nielson Research Services, 2000) show that employers believe that 75% of Australian university graduates are not in fact suited for the jobs they apply for. Employers indicate that this apparent lack of preparedness is not in the technical areas but in the generic capabilities of oral and written communication, interpersonal dealings, critical thinking, problem solving and ethics training. The findings of this study suggest that it is imperative that universities develop students who possess not only discipline knowledge but also a high level of personal and interpersonal skills. These findings were not unexpected, with many studies over the years throughout the world confirming industry's desire for graduates with generic capabilities, along with the need for changes within higher education to accommodate this requirement (Bennett, Dunne & Carre, 2000; Dearing, 1997; Dench, 1997; Oliver & McLoughlin, 2001).

In 1995 Kemp and Seagraves posed the question: transferable skills – can higher education deliver? They explored this question in a survey of the students and staff at Glasgow Caledonian University, in which the authors gathered data on the views and

experiences with regard to generic capabilities of both staff and students in five courses offered at the university. The authors concluded, “there is no question in our minds that [generic] skills can be delivered” (p. 315). However the authors suggest that a “radical rethinking of course structuring and delivery is required if these skills are to be addressed seriously in higher education” (p. 315).

Generic Capabilities at the Queensland University of Technology

The Queensland University of Technology (QUT) is a member of the Australian Technology Network (ATN), a consortium of technology and industry focused academic institutions, which includes Curtin University, RMIT University, University of South Australia and the University of Technology Sydney. In 2002 QUT had around 39 100 students enrolled, with 22 600 full time, 12 500 part time and 4 000 external students. The university is based around 8 faculties: Built Environment and Engineering, Education, Business, Information Technology, Health, Science, Law and Creative Industries.

QUT is committed to “developing graduates who can contribute effectively as citizens, leaders in the wider community, and competent professionals within their chosen discipline” (QUT, 2001: para. 1). To this end the university has developed a Graduate Capabilities Policy (QUT, 2001) that guides both students and academics in terms of the generic capabilities that the university seeks to foster in its graduating students. The capabilities are outlined in Table 1.

In collaboration with the ATN, QUT has been involved in an ongoing project designed to foster the development of graduate capabilities within higher education programs (Bowden, Hart, King, Trigwell & Watts, 2000). As an outcome of this project QUT has developed a web-based tool known as the Student Capabilities Profile (SCP). The SCP is an online approach to the student's professional and personal development. The system aims to be a dynamic, flexible and ongoing vehicle for documenting individual students' personal development and growth across the broad spectrum of workplace skills. The main page of the system is provided in Figure 1.

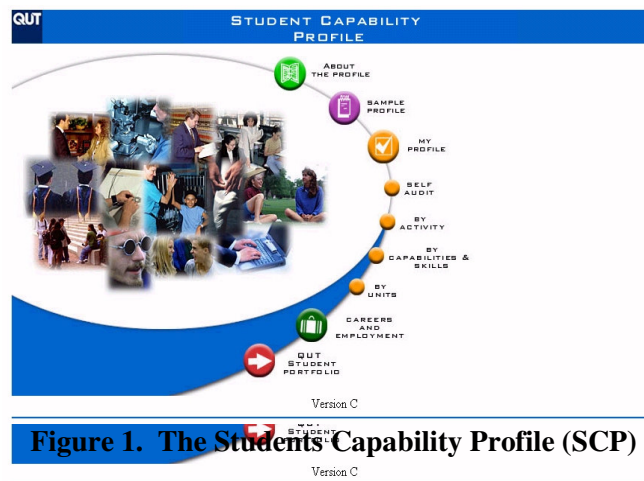


Figure 1. The Students Capability Profile (SCP)

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Knowledge and skills pertinent to a particular discipline or professional area
Including: <ul style="list-style-type: none"> ▪ Coherent theoretical and practical knowledge in at least one discipline area at the level of entry into a profession ▪ Technological skills appropriate to the discipline.
Critical, creative and analytical thinking, and effective problem solving
Including: <ul style="list-style-type: none"> ▪ The ability to critique current paradigms and contribute to intellectual inquiry ▪ The capacity to exhibit creative as well as analytical ways of thinking about questions in at least one discipline ▪ The ability to identify, define and solve problems in at least one discipline area.
Effective communication in a variety of contexts and modes
Including: <ul style="list-style-type: none"> ▪ Effective written and oral communication with discipline specialists and non-specialists and in cross-cultural contexts.
The capacity for life-long learning
Including: <ul style="list-style-type: none"> ▪ Searching and critically evaluating information from a variety of sources using effective strategies and appropriate technologies
The ability to work independently and collaboratively
Including: <ul style="list-style-type: none"> ▪ Managing time and prioritizing activities to achieve goals ▪ Demonstrating the capacity for self-assessment of learning needs and achievements ▪ Being a cooperative and productive team member or leader
Social and ethical responsibility and an understanding of indigenous and international perspectives
Encompassing: <ul style="list-style-type: none"> ▪ Active contribution to intellectual, social and cultural activities ▪ Understanding and appreciation of indigenous perspectives ▪ Recognition and appreciation of gender, culture and customs of personal and community relations ▪ Valuing and promoting truth, accuracy, honesty, accountability and the code of practice relevant to the discipline relevant to the discipline or professional area.
Characteristics of self-reliance and leadership
Including: <ul style="list-style-type: none"> ▪ The ability to take the initiative, to embrace innovation, and to manage change productively.

Table 1: The QUT Graduate Capabilities

The goal of the SCP is for students to document and record for later access the experiences and activities that they have undertaken that have helped them to develop as a professional person. The system will allow students to reflect on the generic capabilities that relate to those experiences and activities and as a result of this reflection identify their personal strengths and improve upon weaknesses. The SCP will allow

teaching staff to be able to see student experiences and to engage in a dialog, which can assist with the student's personal development. The teaching staff can set specifically designed tasks for students to undertake to develop particular generic capabilities, or students can incorporate relevant experiences or activities undertaken outside of the academic environment. The progressive development of the range of capabilities throughout the student's university studies is collated within the SCP to create an individual personal profile.

The SCP is itself in a stage of development and refinement. It has been the center of a small but growing number of teaching and learning projects at QUT endeavoring to explore its many features to meet the needs of the various disciplines. Under a QUT policy teaching staff are encouraged to "review the use of the SCP to document activities in courses and units which develop generic capabilities and encourage students to use the SCP to systematically record and reflect upon learning experiences and activities that illustrate their development of generic skills at QUT" (QUT, 2001: para. 12). Feedback from the different pilot projects will support the subsequent development of the system.

One of the major benefits of the SCP rests in the way in which the system can be used by individual students within the full spectrum of academic units in their course of study at QUT to record their own development of their generic capabilities. The student's personal profile therefore grows and evolves as the student grows and evolves, so that it becomes a dynamic collection of references and evidence.

This personal profile created by the SCP will be an invaluable tool for the student, especially in the recruitment process, as it will allow student to demonstrate to potential employers their achievement and growth within generic capabilities. According to Hargreaves, Murray and Allison (2001) the “SCP will provide employers with a more holistic view of potential employees” (para. 1). The employer can become aware “not only of technical competence from the academic transcript but also of the generic capabilities of the student” (Hargreaves, Murray & Allison, 2001: para. 14). It is proposed that the student can gain further value of the SCP as an Alumnus of the university. As graduates progress through the different stages of their career, they will be able to continue to add to the system in order to communicate to current and potential employers the full raft of their experience and competencies.

In addition to the SCP, QUT has also been involved in the development of a Student Personal Portfolio, which is an online tool that aims to add a further dimension to the student’s own preparation for the workplace. QUT aims to integrate these two tools to ensure a seamless resource for graduates, so that while the SCP has, as a priority, strong links to academic input and validated progress towards the achievement of graduate capabilities, the Personal Student Portfolio allows all students to record activities, with supporting artefacts that link through, from their personal perspective, to a graduate capability (QUT, 2003, p.3). The ultimate aim is to provide students with a resource which will both help them gain employment and support their own lifelong learning activities.

Library Education Leading the Way

LIS Education at QUT

The Graduate Diploma in Library and Information Studies (GDLIS) is a course offered by the School of Information Systems within the Faculty of Information Technology. The Faculty of Information Technology had just under 4 000 students enrolled in 2002. The core degree offered by the Faculty is the Bachelor of Information Technology with 740 students enrolled in 2002. On completion of this three-year degree students are eligible to enter the competitive IT industry in any number of capacities including programmer, systems analysis, database designer, web designer, information manager and so on.

With an average enrolment of around 60 students (with a fairly even split between full-time and part-time students), the GDLIS is one of the smaller courses offered in the Faculty. It consists of seven core academic units and one elective unit. The course is completed in one year full time or two years part time. The GDLIS aims to provide students with the theoretical and practical skills needed to identify, select, assemble and disseminate information resources to meet the information needs of others. On completion of the course students are eligible for professional membership of the Australian Library and Information Association (ALIA). The students enrolled in the GDLIS are not a homogenous group. They represent a wide diversity in terms of gender, personal interests, employment history, academic background and life experiences.

The key objective of the GDLIS is to develop new graduates who are enthusiastic and confident about their new profession – a dynamic and exciting world of information management. As the new LIS professional will be employed in a rapidly changing, information-intensive working environment, he or she will need to not only have the ability to combine theoretical discipline knowledge with the practical application of this knowledge in a range of different situations, including situations in an unknown future, but to also embody range of “holistic capabilities which represent the links between discipline knowledge and professional skills” (Bowden & Marton, 1998, p.12). In terms of curriculum content this not only encompasses the need to acquire sound disciplinary knowledge, but also to develop the generic capabilities, or the personal attributes and attitudes, which will ensure a successful career as an LIS professional. At the highest level, the LIS educators at QUT believe in the need for a holistic approach to student learning where the personal and the professional dimensions are intertwined.

The Project that Initiated Change

In 2002 the GLIDS teaching team received a QUT Teaching and Learning Small Grant valued at \$AUS8000 to identify the personal skills required by the information professional in the twenty first century and to pilot the newly created web-based tool, the Student Capability Profile (SCP), as a vehicle for documenting student development and growth with the broad spectrum of work place skills. The grant was one of only ten awarded by the university and the only grant received by the Faculty of Information Technology in 2002. The project consisted of three stages: Stage one was a detailed

review of literature in the fields of higher education, human resource management and the library and information industry. This review produced a list of desirable generic capabilities for the modern day information professional. Ten generic capabilities were identified. Stage two involved presenting the list of ten generic capabilities to the library and information profession. This process involved both LIS educators and practicing library and information professionals. Focus groups were used to generate discussion and feedback. Stage three involved embedding some of the generic capabilities from the list (i.e. communication and teamwork) into the existing curriculum of a number of the core units within the GDLIS. This required modification of some of the teaching and learning strategies to better support the development of competent graduates embarking on careers in the library and information professions.

It was in this stage that the SCP system was tested. A full account of the challenges and issues faced in undertaking the project and in establishing a holistic approach to LIS education at QUT can be found in a number of earlier publications (Hallam & Partridge, 2003a; Partridge & Hallam, 2003b). In 2003, following on from this teaching and learning project, the LIS students were selected by the university's web development team to participate in a pilot project, as 'higher end users', to explore the embryonic Personal Student Portfolio system. This pilot work has led to further collaborative activities with key players in the university, highlighting the contribution the LIS program can make to innovative practices in the university.

The benefits of the project

GDLIS staff first became involved in the SCP project in December 2001 and their involvement continues still, currently through the Personal Student Portfolio. In its short history so far the project has had five very distinct positive benefits to the LIS education at QUT.

1. The work being undertaken by the GDLIS teaching team on generic capabilities has contributed to the work being conducted by the LIS professional body in Australia and has allowed a collaborative working relationship between the two organisations to evolve. Since late 2001, the Australian Library and Information Association (ALIA), has been involved in a major project known as LISEKA (Library and Information Science Education for the Knowledge Age (ALIA, 2003). One of the key goals of the project is to “in conjunction with practitioners, to articulate a statement of the capabilities for LIS workers” (ALIA, 2003, para. 2). The findings from the current study have informed LISEKA as they continue in the pursuit of identifying the future directions for LIS education in Australia (Hallam & Partridge 2003b). The GDLIS team continues to liaise with the LISEKA Working Group in pilot work to develop a new handbook to support the new educational framework for LIS professionals. In addition, one member of the QUT GDLIS teaching team has been working with the LISEKA Working Group to revise and refine the operational and administrative aspects of ALIA’s CPD Program.

2. The project directly supports the work being done by the Faculty of IT as it endeavours to design curricula, which will “provide integrated opportunities for students to develop generic attributes” (FIT, 2002). Staff of the GDLIS have taken on a significant leadership role in the area of generic capabilities within the Faculty. Members of the GDLIS Teaching Team have given presentations to the Faculty of IT Teaching and Learning Special Interest Group to help guide non-LIS academics as they contend with the issue of transferable skills within the broad field of IT education. They have also taken on the role of “critical friend” to the newly appointed Generic Capabilities Officer within the Faculty (and other faculty teaching staff) to provide guidance to staff on generic capabilities and how these can be embedded within curriculum. The project was acknowledged at the 2003 Faculty of Information Technology Conference with a Faculty Teaching and Learning Award for Research and Scholarship. In addition, the benefits received by the Faculty from the project have resulted in further Faculty support, in the form of teaching and learning grants for other GDLIS projects. Two such projects include the introduction of a highly acclaimed Student Mentoring Program and the exploration into the LIS discipline knowledge necessary for the modern day information professional.

3. The project directly supports the teaching and learning goals of QUT and establishes the GDLIS as a primary tool for the university to explore new and innovative teaching and learning strategies and tools. The GDLIS involvement in the SCP project has established stronger links with other faculties in the university where staff are endeavouring to explore the issue of generic capabilities within their own

professions (i.e. Science, Law) and has lead to a sound working relationship with the university's Teaching and Learning Support Services (TASLSS). The invitation for the GDLIS to be a key player in the new QUT Personal Student Portfolio project has enabled LIS to consolidate some of the partnerships with other faculties in the university, to play a pivotal role in the future development of the Faculty of IT (a similar project for the IT students will be taking place in 2004) and to guide the direction of LIS education in Australia. A video created to promote the features and value of the portfolio system focuses on the teaching and learning strategies of the GDLIS to highlight the benefits of the tool to both students and employers, thus taking the course beyond the university to a broad commercial audience. In addition, as noted, QUT is part of a larger network of universities called the Australian Technology Network (ATN). Each university supports the others in the network by sharing its resources, skills, knowledge and experience. As such the projects undertaken by the GDLIS team will inform not only QUT, but also the other universities in the ATN across Australia as they grapple with the issue of generic capabilities and holistic education.

4. The project has allowed GDLIS to make significant contributions to national and international dialog on the role of universities and the future directions of teaching and learning within higher education. Papers have been delivered at a number of key higher education conferences both nationally and internationally. The efforts of the GDLIS teaching team and the contribution of the SCP project were acknowledged by a Best Paper Award at the 2003 Informing Science and IT Education

Conference (Partridge & Hallam, 2003). The paper has also been accepted for publication in the Journal of Information Education Technology.

5. The project has increased the profile of the GDLIS and QUT within the library and information community. The success of holistic education relies heavily on the collaboration between industry practitioners and LIS educators. The GDLIS focus on holistic learning, together with involvement in key university projects, has led to the formation of new and stronger links with the LIS industry, resulting in more open channels of communication. The work being undertaken by the GDLIS teaching team on generic capabilities has provided the opportunity for industry to become directly involved within the education of its future professionals. This interaction with industry professionals has proved beneficial to all parties: the professionals, the GDLIS and the faculty. The profession benefits by having the opportunity to comment on and contribute to the quality and content of LIS education. The GDLIS benefits by ensuring its curriculum remains at the cutting edge and relevant to industry needs, which in itself ensures that the students are well placed for future employment. The faculty benefits by fostering partnerships that can lead to new industry initiatives and collaborations. In 2003 the Faculty of IT launched its Industry Affiliate Program. This program is “designed to facilitate meaningful collaboration between the Faculty of IT and industry in the areas of research, development, education and student recruitment” (FIT, 2003, para, 2). This in turn benefits QUT, which promotes itself as “the university for the real world” and prides itself on its strong links with industry.

The LIBRARY Strategy for Success

The GDLIS involvement in projects such as the SCP and the Personal Student Portfolio has directly resulted in placing it at the forefront of holistic learning within the faculty, the university and the LIS profession. The key to the success of GDLIS teaching team in achieving this is their commitment to following the LIBRARY strategy: Learn, Identify, Begin, Relate, Articulate, Reflect and Yes. Whilst this strategy is not exhaustive, it does offer some fundamental guidelines on how to get started in placing your LIS program at the front and center of your institution.

- **Learn** - Learn about the university, and about the faculty. Does the university or the faculty have a teaching and learning plan? What are short and long-term goals and priorities of both the university and the faculty? Learn about the current trends and issues in higher education and how these can impact upon the university or the faculty.
- **Identify** – Look around you and identify the opportunities that exist for LIS education to shine. Identify also the challenges that may confront you and consider how these challenges can be overcome. Identify the resources you will need, the strengths and weaknesses of LIS education within the university and how best LIS can contribute to new ideas and stand out within the university.

- **Begin** – Stop planning and start doing. One of the biggest challenges that librarians confront (and library educators are no different!) is the belief that you need to plan and prepare perfectly before embarking on a project. This is not always necessary. The worst thing you face is not the danger of getting it wrong, but the danger of not ever beginning in the first place. Put the goal of placing LIS at the forefront of teaching and learning a priority, build it into your working life by setting aside uninterrupted blocks of time and working regularly on reaching this goal. Also minimize delegation, be prepared to get your hands dirty so that you can write and speak confidently from a position of experience and authority.
- **Relate** – Be willing to foster relationships with other people in the faculty, within the university and outside the university. Collaboration with others can lead to resource sharing, reduction of costs, new angles for your ideas and plenty of future possibilities. Work towards developing a successful community of practice to build and share innovative approaches to teaching and learning.
- **Articulate** – Clearly articulate, either in writing or the spoken word, your vision for LIS education within your institution – draw on the distinct goals and priorities you have identified. Establish a group of “critical friends” who can support you through the process and who can help you stay focused.
- **Reflect** – Critically reflect upon the process as you go – and change the script if necessary. Remember to reflect “as student” and “as university administrator” – in

short, consider the “other person’s point of view” to determine how your work is impacting upon them. Think about adopting an action research approach where you plan-act-reflect-change.

- **Yes** – Say ‘yes’ to every new opportunity that comes your way – even the opportunities that you are not too sure about it. By saying ‘yes’, you are giving yourself and LIS the opportunity to shine.

Conclusion

This paper has described the experiences of one group of LIS educators in Australia as they endeavour to place LIS education at the forefront of holistic learning. Three key conclusions may be drawn from this case study: (1) The Faculty of IT is a logical home for the GDLIS; (2) The LIS discipline can (and should) take on a leading role within universities and higher education; and (3) Collaborative partnerships are the key to the future of LIS education. The paper also provides a model that other LIS educators can use as they embark on the journey to ensure their LIS program is recognised within their own university. The authors of this paper advocate that LIS education and LIS educators need to actively place themselves at the front and center of their faculties, of the university and within higher education. Doing so will lead to positive outcomes for all concerned. The LIS discipline will benefit by the recognition of it as a cutting edge profession contributing to the future development of higher education. The faculty will benefit through the formation of new relationships and partnerships from within the LIS industry. The university will benefit from the advances made in teaching and learning by

LIS educators. The students will benefit from receiving a dynamic, quality education that will help facilitate their development as the well-rounded and confident new professional.

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