Self-discovery through digital portfolios: a holistic approach to developing new library and information professionals

Associate Professor Gillian Hallam and Lynn McAllister

Australian ePortfolio Project
Queensland University of Technology, Brisbane

g.hallam@qut.edu.au
l.mcallister@qut.edu.au

Abstract

Library educators face ever-increasing challenges in terms of delivering a curriculum that will adequately prepare students for the dynamic digital environment they will be working in. Graduates require a balance of discipline specific knowledge and personal attributes that will enable them to transition smoothly into employment and plan their future careers. At Queensland University of Technology (QUT) the postgraduate library and information management program has introduced a whole-of-course approach to professional practice studies, using an ePortfolio to support the students on their learning journey.

The subject ITN280 Professional Practice has been developed as an overarching unit in the Master of Information Management course spanning the three semesters of study. The innovative study program seeks to establish meaningful links between the various coursework subjects and to introduce students to contemporary professional practice in information agencies. The learning activities focus on the students' own personal and professional development, enabling them to participate in industry seminars, fieldtrips, work placements and career mentoring. The development of skills in critical reflective practice underpins the process of building an ePortfolio to document the students' insights into and their experiences in the information profession.

While the ePortfolio processes and tools for organisation and communication directly support the learning outcomes of students in a broad spectrum of skills, the students clearly benefit from the confidence they gain by working in a digital environment. The scaffolded development of technical skills, professional knowledge and self-understanding represents a holistic approach to academic learning and career planning. The paper presents a case study prepared as part of the Australian ePortfolio Project, a multi-university research study funded by the Carrick Institute for Learning and Teaching in Higher Education, led by QUT.

Keywords

Library education; LIS education; Professional practice; ePortfolios; Digital portfolios

Introduction

It cannot be denied that these are testing times for educators who are directly responsible for the development of the new library and information professional. They have to contend, concurrently, with the multiple demands of students, employers, professional associations, university management and government departments. Feather (2003) refers to the "seismic changes" that have made themselves felt in the professional arena in the digital age, through the application of new information and communication technologies (ICT), new approaches to information provision and access, reforms across higher education and indeed changes across society as a whole. Yet, "it is a great time to be a librarian or information specialist" (Byrne, 2007, p.337).

Developments in information technology are driving new approaches to learning and teaching that are more student-centred and encourage deeper engagement in learning activities. Teaching has moved away from simply filling students' heads with a body of knowledge to an awareness of the need to prepare the students for a smooth transition into employment. Employer bodies stress the need for graduates who are ready to 'hit the ground running', to be equipped with a skill set that encompasses the discipline knowledge as well as the personal attributes that are required in the workplace.

Library and information science (LIS) education at Queensland University of Technology (QUT) has responded to the challenge of preparing graduates who are confident about their new careers in the dynamic digital environment in which they will be working. A key element of the postgraduate course is an innovative whole-of-course approach to professional practice studies, which focuses strongly on students discovering the professional skills and personal qualities they will need in their careers. A digital portfolio is used as the tool that supports the students on their learning journey. This paper presents an overview of some of the current curriculum issues that impact on LIS education today and introduces the concept of the electronic portfolio (ePortfolio) in higher education. Using the QUT LIS course as a case study, the paper examines one example of a holistic approach to academic learning and career planning to demonstrate how the ePortfolio can be used for the scaffolded development of technical skills, professional knowledge and self-understanding. The case study has been prepared as part of the Australian ePortfolio Project, a multi-university research study funded by the Carrick Institute for Learning and Teaching in Higher Education, led by QUT.

Education for LIS professionals in the digital age

It has been argued that there is a lack of consensus and consistency in the breadth and depth of the curricula of library and information science (LIS) courses (Mulvaney & O'Connor, 2006), not only within individual countries, but also internationally, as has been reported by literature discussing LIS education across the world (Middleton, 2003; Myburgh, 2003; ur Rehman, 2002; Koehler, 2003; Raju, 2003; Maceviciute, 2002; Irwin, 2002; Tedd, 2003). LIS educators cover a very wide range of skills and competencies, knowledge areas, topics or modules for their courses. Terms include social informatics, knowledge management, information management, information economics, information resources development, IT applications, information systems, networking, Internet, virtual library, management of information organisations, human resource development, information organisation, information retrieval, collection and access management, professional ethics and more. Naturally enough, as ever more digital media are introduced into people's working and social lives, the role of skills in information technology becomes increasingly important.

Some LIS educators have narrowed their focus to the issue of how well LIS curricula are meeting the demand for staff who will be working in the digital information environment (Spink & Cool, 1999; Saracevic & Dalbello, 2001; Liu, 2004; Weech, 2007). These authors have primarily surveyed the course outlines and brief descriptions of 'Digital Libraries' courses in order to present a review of the discipline content of the curricula offered by different universities. The programs were mainly those offered by universities in the United States of America, where a distinction is made between the 'traditional' library schools and the 'newer' i-Schools. Liu notes that in courses offered by computer science departments "the emphasis tends to be on technology, metadata, databases and retrieval", while courses offered by LIS departments, on the other hand, "the emphasis seems to be more on organizing, preserving, managing and providing access to information" (2004, p.63).

In the twenty first century, however, LIS education is not limited to discipline-specific knowledge. In many countries there has been a growing interest within the higher education sector in learning strategies that will 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 these life skills, which form the core set of workplace skills and abilities required by graduating students and new employees. They

complement the discipline-specific skills and professional knowledge acquired by students through their university studies. Within the literature many synonyms have been used to refer to this core set of skills: 'transferable skills' (Atlay & Harris, 2000), 'key competences' (Mayer, 1992) 'generic skills' (Oliver & McLoughlin, 2001) and 'graduate attributes' (Down, Martin, Hager & Bricknell, 1999).

The publication of a number of career guidance texts aimed at the 'new library and information professional' underscores industry awareness that the piece of parchment received at the end of the study program is indeed just the beginning of an LIS career (Schontz, 2004; Myburgh, 2005; Gordon, 2006; Heye, 2006). Specific attitudes and values are highlighted as being integral to the LIS professional's skill set, including commitment to service, high ethical standards, intellectual openness and curiosity, effective communication and interpersonal skills, problem solving, team work, flexibility, innovation and creativity. It is increasingly recognised that "the librarian of the 21st century" not only has a strong understanding of the disciplinary knowledge and skills of librarianship, but must be a multifaceted professional "with the willingness to change; varied experience in training and background; adaptability to a quickly changing environment; 'shareability' between disciplines; and commitment (Salter, 2003). Partridge and Hallam (2004) have used the metaphor of DNA, based on the work by Watson and Crick, to describe the two aspects of generic capabilities and discipline knowledge. The strands within the genetic concept of the double helix symbolise the two ribbons of professional knowledge and personal attributes; the strands are intertwined and complementary. Together the two strands represent the "unique patterns of DNA" (Watson, 1981) that determine the specific characteristics and qualities of the library and information professional. The two dimensions of professional life cannot be separated.

Importantly, the world of digital information means that the LIS sector cannot ignore the reality and the impact of its own dynamic environment: the faster the pace of change, the greater imperative for staff development. People working in the sector cannot be allowed to conclude their academic studies and then 'stagnate'; they should be offered opportunities for ongoing professional growth and stimulation. Several of the authors of the career guidance texts stress the imperative of career-long learning.

> …staying relevant to the library and information science profession, as well as to our personal and organizational goals, is part of a regular, ongoing process. It begins at the start of your career, or even earlier, I think, with the idea of *becoming* a librarian or information professional, and progresses across a series of educational, training and practical work opportunities that lead to new and continuing opportunities for lifelong learning in what is, after all, a dynamic and ever-changing profession… 'Staying relevant' means we never stop 'becoming' or evolving in our roles as librarians.
>
> (MacLennan, 2004, p,312)

One of the key points to note is the importance of understanding the value of career development "at the start of your career, or even earlier". The need to consider the value of career-long learning at the very initial stages of professional education challenges educators to move beyond the orthodox model of imparting propositional knowledge, filling the individual mind with universal theories and facts (Gonczi, 2001, p.7) and to develop new models of professional education which better reflect situated learning theories, to consider the ways people actively learn in a specific social context (Laurillard, 2002, p.13f). As the new LIS professional will be working in a rapidly changing, information-intensive working environment, he or she will need not only to have the ability to combine theoretical discipline knowledge with the practical application of this knowledge in a range of different situations, including, indeed, situations in an unknown future, 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). There is an opportunity for educators "to shift the focus of professional education from training the individual mind, to the social settings in which the individual becomes part of the community of practice" (Gonczi, 2001, p.8). The LIS course offered by Queensland University of Technology, through collaboration between academic staff and practitioners in industry, seeks to achieve the holistic development of the LIS professional, with well-

rounded, competent and confident graduates who transition easily from the academic world into professional practice.

LIS education at QUT

The Faculty of Information Technology offers a three semester (full-time) postgraduate course, the Master of Information Management (MIM). Until recently, the course has only been available in face-to-face mode, but in 2008 more flexible learning approaches are being introduced, to enable students to study online. The curriculum encompasses 12 units of study. As the course is recognised by the Australian Library and Information Association (ALIA), graduating students are eligible for professional membership of ALIA. On average, enrolments sit around 50 FTE, with more part-time than full-time students. In a postgraduate course such as the MIM, the student cohort is inevitably a very interesting one, with a wide diversity in academic background, employment history, personal interests and life experiences.

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 (those generic capabilities) which will ensure a successful career as an LIS professional. At the highest level, therefore, the academic staff promote a holistic approach to student learning where the personal and professional dimensions are intertwined. Naturally enough, as a professional course, the MIM does reflect some elements of a more traditional or discipline-based approach to curriculum. However, it is important to stress that the development of the students' generic capabilities has become a significant component of the approach to professional education in the MIM course. The International Federation of Library Associations and Institutions (IFLA) has highlighted the importance of these capabilities within LIS courses: "Methods of teaching and assessment should be designed to develop or enhance students' interpersonal communication skills, ability to work in teams, and time and task management skills. At the professional level, emphasis should be placed on developing students' analytical and problem-solving skills" (IFLA, 2000).

The educational philosophy of the teaching staff goes further than this, to incorporate elements of the cognitive view of learning, "to develop the mind, to help (the students) learn how to learn and to provide them with opportunities to use and to strengthen their intellectual faculties" (Toohey, 1999, p.55) and to encourage the students' "intellectual, personal and social development" (Ratcliff, 1997, p.8) The MIM study program has been developed in line with Toohey's views that highlight the importance of utilising the curriculum as a vehicle for students to acquire "the conceptual structures and thinking processes of a particular discipline" (Toohey, 1999, p.55). Bowden and Marton believe that the "acquisition of required skills and knowledge occurs as part of the developing familiarity with ways of being, ways of thinking, ways of seeing the world characterizing the (professional) group and with the context that is gradually and increasingly inhabited" by new members of that professional group (1998, p.57). The learning and teaching strategies utilised in the MIM encourage students to become directly involved in the authentic world which they will be entering. Rather than having a distinct demarcation between the roles of student and professional practitioner, between the academic world and the real world, the course aims to provide a transitional situation which will enable the student to move smoothly into their new career. The academic staff believe that the role of the teacher is, therefore, not so much to transfer specific knowledge, but to facilitate knowledge construction, to open the mind, to encourage passion for learning, to help students find out where they want to go and to help them reach the goals they set themselves.

For many years, the unit ITN280 Professional Practice was is regarded as the capstone unit for the course, with the overarching goal of the unit of preparing graduates for entry into the workforce as new information professionals. A core component of the unit was the fieldwork placements, which enabled students to gain work experience in diverse areas of the library sector, with the assumption that they could then establish the links between theory and practice as they concluded their studies and entered the workplace. However, in the past couple of years the impact of the emerging skills shortage in many professions in Australia, including the library and information profession, has

begun to bite. There is evidence that the students are increasingly able to gain employment in libraries and information services *during* their studies, so that the field placements were no longer achieving the 'capstone' goal. The majority of students were seeking to complete their placements at their actual place of employment, a situation which countered the teaching staff's desire to see students investigate diverse career opportunities prior to employment.

This situation necessitated a review of the Professional Practice unit, which in turn coincided with a review of the course as a whole and some structural changes in the Faculty. The outcome was the opportunity to intoduce some fresh approaches to learning and teaching in the MIM. As noted, the course is currently being revised to be offered to students via the Internet. The Professional Practice unit has been totally redesigned to run as a whole-of-course program, rather than as a one-semester unit. Accordingly, the unit has become an overarching unit in the MIM which serves to establish meaningful links between all the various units of study and to introduce students to contemporary professional practice in information agencies. The unit focuses on the students' own personal and professional development, thereby encouraging them to consider their own career right from the very start of their study. Students will be offered the chance to participate in industry seminars, fieldtrips, work placements and career mentoring. The only deliverable for the unit will be a digital portfolio.

Digital portfolios in higher education

The interest in digital portfolios, or ePortfolios, and their use by all sectors of education have been growing over the past few years. In some countries, such as the United Kingdom (UK) and the Netherlands, there have been national policy initiatives and lifelong learning strategies that have driven the development of ePortfolio tools in schools, technical colleges and universities. Depending on the immediate context, the term 'ePortfolio' can refer to a software application, a specific presentation of digital materials or the whole content of a digital resource. In some situations, it has been argued that an ePortfolio system can be virtually synonymous with an electronic or virtual learning environment (ELE/VLE) (Stefani et al, 2007). The UK Joint Information Steering Committee (JISC) has defined an ePortfolio as "the product created by learners, a collection of digital artefacts articulating learning, experiences and achievements" (2007). Sutherland and Powell (2007) amplify this definition: "An e-Portfolio is a purposeful aggregation of digital items – ideas, evidence, reflections, feedback etc, which 'presents' a selected audience with evidence of a person's learning and/or ability". The word 'purposeful' requires close attention: JISC (2007) outlines the potential range of purposes for an ePortfolio tool:

- Supporting application, eg for study or for a job
- Supporting transition, eg into a new employment situation
- Supporting teaching, learning and assessment, eg the assessment *of* learning (summative evidence of achievement) or the assessment *for* learning (a formative process that encourages students to reflect on their learning activities and outcomes)
- Supporting professional development planning (PDP) and/or continuing professional development (CPD).

In the current context of the Professional Practice unit in the LIS program at QUT, the primary purpose of the ePortfolio is to support teaching, learning and assessment, with associated purpose of fostering an interest in the role of ePortfolios for PDP/CPD. In this way, the ePortfolio tool serves to be part of a process that, as MacLennan has stipulated, "begins at the start of your career, or even earlier, I think, with the idea of *becoming* a librarian or information professional, and progresses across a series of educational, training and practical work opportunities that lead to new and continuing opportunities for lifelong learning" (2004, p.312).

Integral to the use of ePortfolios to support learning is the notion of reflective practice. Reflective practice has long been recognised as a valuable tool to deepen the personal learning experience (Dewey, 1993; Schön, 1982), especially when the subject encounters fresh professional situations where new knowledge and skills are developed. Reflective practice enables students to monitor

and record their new learning experiences, together with their emotional responses to these experiences. Consequently, students are able to become more critically aware of the actual learning processes as they take place, as well as of the increased levels of skills and knowledge that they progressively acquire. In this way, the ePortfolio is used in the MIM to support the pedagogical framework of constructivism. Constructivists argue that human learning is not achieved through the passive transmission of information from teacher to learner, but through building new knowledge upon the foundation of previous knowledge, thus students *construct their learning*. The goal is to help students start to think about their thinking, so that they will achieve deep, rather than surface learning outcomes. Within the MIM, and specifically through the ePortfolio, reflective practice is presented as a tool to help students become aware of the ways they learn and the ways they develop new skills and knowledge as evolving information professionals. At the same time, students become increasingly self-aware, better understanding their strengths and weaknesses, which in turn helps them to develop both short- and long-term goals for their future career .

The role and function of the portfolio is further elaborated:

> Portfolios, in education and personal or professional development, are collections of documents and other objects that can be shown as evidence to support claims that a person makes about what they know, what they have achieved, and what they can do. As for e-portfolios, a common starting point is that they are simply electronic versions of physical portfolios that contain digital objects instead of physical objects. They are '…the new generation of the old 3-ring binder'.
>
> (JISC, 2006)

The LIS course at QUT had historically incorporated a 'beginner's professional portfolio' as one of the assessment items in the Professional Practice unit, the main reasons for using assessment by (hardcopy) portfolios were as highlighted by academic staff almost a decade ago:

> 1. To enable learners to experience the compilation of a portfolio.
> 2. To provide a coherent framework within which students can engage in important elements of beginning professional practice.
> 3. To facilitate student control over their own learning and achievements in professional practice.
> 4. To provide a context within which students can continue to learn to critically assess their own learning.
> 5. To enable students to aim for a desired level of achievement reflected by specified criteria and associated grades.
> 6. Compatibility, as an assessment form, with other features of the subject which promote reflective practice; ie the field-work diaries, colloquium contributions on professional issues and peer review.
>
> (Bruce & Middleton, 1999, p.2)

The features and philosophies of the physical portfolio outlined by Bruce and Middleton continue very much today in the ePortfolio, although Point 5 has been removed as the unit no longer attracts grades of achievement, rather a simple satisfactory/unsatisfactory performance level. In addition, as noted, the focus of the content and reflections collated in the ePortfolio has now been changed to cover the learning activities and professional experiences across all units of the course.

In 2003-2004, the authors, one as a member of the academic staff and one as a student (subsequently research assistant/sessional staff member) in the LIS program, were invited to participate in the development of the new Student ePortfolio. It was acknowledged that the Professional Practice portfolio had achieved a good level of maturity in the curriculum, so a valuable contribution could be made to the piloting of a new digital tool and to provide evaluative feedback on its application for postgraduate coursework students. This project led to a close connection between the QUT ePortfolio team and the MIM teaching staff.

The development of the QUT Student ePortfolio has been discussed in detail in the case study (Emmett, Harper & Hauville (2006) presented in the *Handbook of research on ePortfolios* (Jafari & Kaufman, 2006). Key dimensions of the success of the Student ePortfolio system include:

- The ability to build on existing knowledge and experience at QUT
- Vision and support from senior management
- Support from the Teaching and Learning Committees, faculty deans and academic staff
- Extensive research and project feedback from all stakeholders
- Collaborative development and implementation strategies
- Provision of extensive support resources
- Enthusiasm and drive from the Project Team

(Emmett, Harper & Hauville, 2006, p.413)

The initial steps in the design process involved the development of a framework of employment-focused graduate capabilities, which were then mapped to the student academic capabilities in place at QUT and a number of employer-developed employability skills frameworks. The students can use the ePortfolio tool to record, catalogue, retrieve and present reflections on their experiences and artefacts that underpin the development of their graduate capabilities. The scope of the reflections are not limited to their academic work, but encompass their personal, employment and community activities. In this way, "from the students' perspective, it is holistic, allowing them to build a picture of themselves as a whole person, a picture that cannot be seen in an academic history or curriculum vitae alone" (Emmett, Harper and Hauville, 2006, p.411).

Digital portfolios in the LIS curriculum

The redevelopment of the Professional Practice unit in the MIM has made it possible to bring together a number of previously disparate learning and professional activities undertaken by students. For a number of years, LIS students have participated in the QUT Career Mentor Scheme, whereby students are partnered with industry professionals for the period of one year. An evaluation of the mentoring program is included in a comparative study of student/graduate LIS mentoring (Hallam & Newton-Smith, 2006). As QUT introduces federated access to its online systems, it will be easier for mentors to be able to access the students' ePortfolios to provide formative feedback on their reflective entries, enabling an additional dimension of practitioner viewpoints to contribute to what Toohey refers as the acquisition of "the conceptual structures and thinking processes" of the evolving professional persona (1999, p.55). Of course, the student cohort may include people who have already worked in the LIS sector for a number of years, or bring with them, as mature students, a range of knowledge and experience that helps them construct new meanings through their learning.

Students are introduced to the ePortfolio during their first semester of study, so that they can become familiar with the tool and gain some understanding of the potential value of the ePortfolio approach to learning and development. QUT provides access to a wide range of support materials for the Student ePortfolio, including guides, online tutorials, sample portfolios and FAQs (QUT, 2007). In the first semester, students are encouraged to begin to develop their understanding of and skills in reflective practice. Guidance and support are provided by the teaching staff, by the ePortfolio project team and by professional staff in the Careers and Employment Office. Students can submit preliminary drafts of their initial refections for comments and feedback, so that by the end of the semester they can confidently offer access for (informal) assessment of their work. The students are required to use the ePortfolio to record their reflections on their learning activities in the core units they are studying each semester. The core units include guest speakers and industry visits relevant to the topic; again students are asked to discuss their thoughts about industry perspectives in their ePortfolio. Students are also expected to attend a number of professional development events (eg ALIA seminars or QUT Alumni forums) during the course of their studies, with a reflective review of their experiences included in the ePortfolio. Fieldwork has become more flexible, with students asked to complete 100 hours of field experience during their studies, based

on work shadowing through to authentic project work. Group discussion on professional issues is encouraged through the community learning site on Blackboard, with students asked to work within 'special interest groups' to explore and develop resources online about specific topics such as law librarianship, a day-in-the-life of a liaison librarian, digital archives etc. In this way, while the ePortfolio is primarily used to support individual self-discovery, there is also scope to encourage collaborative and networked learning activities. Transition into employment is the focus of ePortfolio work throughout the course, with recruitment and employment practices and career development activities led collaboratively by the Careers and Employment Office and ALIA Students and New Graduate groups. By the time the students complete their studies, they already have a fully developed ePortfolio that showcases their learning, their achievements and their emergent professional identity.

> *Drafting the portfolio has made me not only think about what I would like to achieve as a librarian and where I would like to go with my career, but it has also given me a chance to record my goals and opinions where other people can see. Potential employers will hopefully see that I am an organised and enthusiastic applicant, and will want to know more about me.*
>
> *Although this professional portfolio has been an assessment requirement for ITN280, it has proven invaluable to me in regards to my future career planning. It has provided a framework where I can record my professional development activities and the skills I have learnt over the years from my employment and tertiary education.*
>
> *I plan to use my online portfolio throughout my career, and will continually record my activities and contributions to the profession.*

Accordingly the ePortfolio seeks to meet the goal of 'being relevant' within the LIS profession, which should begin "at the start of your career, or even earlier, I think, with the idea of *becoming* a librarian or information professional, and progresses across a series of educational, training and practical work opportunities that lead to new and continuing opportunities for lifelong learning in what is, after all, a dynamic and ever-changing profession…: (MacLennan, 2004, p.312).

Conclusion

While ePortfolio processes and tools for organisation and communication are highly valuable in the way they directly support the learning outcomes of students in a broad spectrum of skills, the students themselves clearly benefit from the confidence they gain by working in a digital environment. The scaffolded development of technical skills, professional knowledge and self-understanding represents a holistic approach to academic learning and career planning. Increasingly often, students are embarking on their professional LIS careers while they are still students. This means that their understanding of career progression and professional development must commence sooner, rather than later. Brine notes that career planning is critical: "To ensure the individual develops their skills at appropriate points in their career, or earlier, they must plan" (2005, p.2). In the UK, LIS professionals work towards professional accreditation (chartership) and the revalidation of the professional credentials, a process managed by the Chartered Institute of Library and Information Professionals (CILIP). The journey to professional chartership and revalidation requires the development of a professional portfolio, with a mentor serving as a guide by the side: very close to the QUT model of professional learning.

Doctors, nurses, midwives and paramedics and also teachers are following the ePortfolio route in their own careers, with the professional bodies setting the pace. While ALIA has a Professional Development (PD) scheme, the actual uptake of the scheme by members is low, which is disappointing when "continuing professional development is virtually synonymous with career development" (Brine, 2005, p.145). There is inordinate scope for Australian LIS professionals to acknowledge the dynamic environment in which they work and to commit to the need to manage and to plan their careers more effectively, with the potential to use portfolios or ePortfolios as the core component. Will new graduates be the driving force?

> *The process of creating the portfolio really made me conscious of the skills required for successful career planning, not only for the immediate future, but to ensure that I continue to develop in my new profession.*

Is the profession ready to follow their lead?

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