Australian ePortfolio Project

ePortfolio use by university students in Australia: Informing excellence in policy and practice

Final project report August 2008

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Executive summary

In mid 2007, the Australian Learning and Teaching Council (ALTC), formerly the Carrick Institute for Learning and Teaching in Higher Education, commissioned an intensive research project to examine the use of ePortfolios by university students in Australia. The project was awarded to a consortium of four universities: Queensland University of Technology as lead institution, The University of Melbourne, University of New England and University of Wollongong.

The overarching aim of the research project, which was given the working title of the Australian ePortfolio Project, was to examine the current levels of ePortfolio practice in Australian higher education. The principal project goals sought to provide an overview and analysis of the national and international ePortfolio contexts, document the types of ePortfolios used in Australian higher education, examine the relationship with the National Diploma Supplement project funded by the Federal government, identify any significant issues relating to ePortfolio implementation, and offer guidance about future opportunities for ePortfolio development.

The ePortfolio world is multifaceted: ePortfolios can be used in many diverse education and employment situations, inevitably with a wide spectrum of purposes and a range of different audiences, as well as implemented using a variety of software tools. A range of research methodologies was used to investigate current practice and to capture data about the scope and relative penetration of ePortfolios: an audit of educators, academic managers and human resources staff provided information about current practice in individual Australian universities, while a series of focus groups and semi-structured interviews amplified some of the key issues raised in the survey responses. While student surveys shed light on the initial expectations of and subsequent experiences with ePortfolios, the perspectives of learners who had used ePortfolios over a period of time were also reviewed. In February 2008, in order to engage the different stakeholder groups in the research activities, the project team hosted the Australian ePortfolio Symposium with an associated ePortfolio Showcase event, as well as a national policy meeting, which stimulated interest in further opportunities to share knowledge and experiences.

The research findings revealed that there was a high level of interest in the use of ePortfolios in the context of higher education, particularly in terms of the potential to help students become reflective learners who are conscious of their personal and professional strengths and weaknesses, as well as to make their existing and developing skills more explicit. There were some good examples of early adoption in different institutions, although this tended to be distributed across the sector. The greatest use of ePortfolios was recorded in coursework programs, rather than in research programs, with implementation generally reflecting subject-specific or program-based activity, as opposed to faculty- or university-wide activity. Accordingly, responsibility for implementation frequently rested with the individual teaching unit, although an alternative centralised model of coordination by ICT services, careers and employment or teaching and learning support was beginning to emerge.

The project investigation identified four individual, yet interrelated, contexts where strategies may be employed to support and foster effective ePortfolio practice:

- government policy
- technical standards
- academic policy
- learning and teaching.

At present, however, the state of play in Australian universities is fragmented. While it is not yet equal to leading edge practice in other countries, there is clear evidence of strong interest across the sector. Ideally, the higher education sector should strive to bring together the different pieces of the ePortfolio puzzle to build a cohesive composition that will benefit individual students, the quality of learning and the value of higher education outcomes.

The project report concludes with a series of recommendations to guide the process, drawing on the need for open dialogue and effective collaboration between the stakeholders across the range of contexts: government policy, international technical standards, academic policy, and learning and teaching research and practice.
Recommendations

The current policy environment of the Federal Government seeks to enhance the quality of education, encourage widened access to education opportunities, and stimulate integration between vocational education and training and higher education in order to support innovation and productivity to ensure ongoing national economic development and growth. Indeed, internationally, ePortfolio policy and practice seek to draw together the different elements of integrated education and learning, graduate attributes, employability skills, professional competencies and lifelong learning, ultimately to support an engaged and productive workforce. The recent proposal for an Australian Higher Education Graduation Statement seeks to provide an internationally acceptable format for presenting institutionally authenticated information about learners, while an ePortfolio can help them better understand the value of their achievements, not only through their academic studies, but also through formal and informal learning activities in other areas of their lives.

Recommendation 1

It is recommended that the government departments with responsibilities for education engage with peak industry, professional and employer bodies to develop a shared understanding of the potential of ePortfolio practice to articulate employability skills.

* * *

Recommendation 2

It is recommended that government policy recognise ePortfolio practice as a strategy to build an integrated relationship between higher education and the vocational education and schools sector, in order to support the individual’s lifelong and lifewide learning needs and to increase the potential for career progression.

* * *

Recommendation 3

It is recommended that the higher education sector acknowledge the role of the Australian Higher Education Graduation Statement as an authenticated document reporting student achievement, compiled and verified by the academic institution at the time of graduation, while further acknowledging the value of the ePortfolio process to articulate the integrative aspects of student learning.

* * *

Learner mobility within and between education, training and employment sectors requires processes that will allow data about individuals to be both exported and imported across different systems and services with the assurance that the data is both secure and accessible. Technical standards and interoperability issues developed through international collaboration (for example, the eFramework for Education and Research, and the IMS Global Learning Consortium) represent a key aspect of ePortfolio practice, supporting the exchange of information and data across institutional, sectoral and jurisdictional boundaries.

Recommendation 4

It is recommended that Australian ePortfolio stakeholders continue to develop the collaborative relationship with partners in the eFramework for Education and Research initiative in order to ensure that aspects of ICT in education and research are developed and implemented strategically.

* * *
Recommendation 5

It is recommended that the international information standards for ePortfolio practice be adopted as an Australian technical framework, in order to facilitate the exchange of information and data across institutional, sectoral and jurisdictional boundaries.

***

It is important for academic managers to have a broad understanding of the benefits and value that ePortfolios can bring to learning, teaching and career development processes, so there is scope for an ePortfolio culture to become an integral aspect of the academic environment. Those engaged in the institution’s learning and teaching policy environment need to be conscious of the potential of ePortfolios, when integrated into current and future eLearning strategies, to contribute to student-centred learning strategies, transparent learning outcomes and the relevant employability skills for graduates. Significantly, the successful adoption and implementation of ePortfolios require strong alignment between the strategic, tactical and operational areas of academic management.

Recommendation 6

It is recommended that academic policy in higher education institutions recognises the value of ePortfolio practice as a component of different pedagogies that enhance the quality of learning and teaching across the institution.

***

Many early adopters of ePortfolio practice have recognised the potential of the ePortfolio process, when it is embedded in learning and teaching activities, to help students move beyond the state of knowing what they have learned to consider how they have learned. By reflecting on their own learning and achievement, learners are encouraged to plan for their personal, academic and career development. Currently, ePortfolio practitioners in higher education are eager to break away from their sense of isolation and work collaboratively across disciplines and institutions to further their knowledge and understanding. There is scope to develop a community of practice that will provide valuable channels of communication between educators with shared interests and ideas, and encourage scholarship and research. Compared with many other countries such as the United Kingdom, United States of America and the Netherlands, Australia is in the early stages of ePortfolio practice and research. There is scope to undertake investigations into the impact of ePortfolios on key areas on learning outcomes within and beyond university.

Recommendation 7

It is recommended that the various stakeholders in higher education who are interested in ePortfolios utilise the ePortfolio Toolkit (under development) to guide and inform their practice.

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Recommendation 8

It is recommended that ePortfolio stakeholders establish a Community of Practice to share learning and experiences of quality ePortfolio practice in higher education, in order to foster scholarship and research and to provide a forum for dissemination about good practice.

***
Recommendation 9

It is recommended that a regular Australasian conference be convened to explore and discuss ePortfolio research and practice.

***

Recommendation 10

It is recommended that the Australian Learning and Teaching Council adopt a leading role to foster and support further research into the educational benefits of ePortfolio practice.

***

If the higher education sector is to effectively fulfil its role in producing skilled professionals who, through continuous learning, career progression and coherent employability strategies, will play a significant role in the future success of the Australian community and economy, then the potential of ePortfolios to bring together educational technologies and quality learning processes, and to provide evidence of individual achievement and employability skills should not be ignored. Policies and strategies are required at both the sectoral and institutional levels to ensure that advantage is taken of the opportunities for connectivity and cohesion in the fragmented world of eLearning, flexible delivery, social networking and mobile technologies.
Dissemination and communication of project activities

Conference presentations


Conference proposals


Australian Association for Research in Education (AARE) Conference to be held 30 November to 4 December 2008 in Brisbane; http://www.aare.edu.au/conf2008/index.htm

European Institute for E-Learning (EifEL) ePortfolio Conference to be held 22–24 October 2008 in Maastricht; http://events.eife-l.org/ep2008

Effective Learning and Teaching (ETL) Conference to be held 30–31 October 2008 in Brisbane; http://www.etl2008.qut.edu.au

Symposia and other invited speaker sessions


University of Melbourne ePortfolio Workshop, Melbourne, 11 October 2007

AICTEC Forum, Sydney, 8 November 2007

University of Queensland, Brisbane, 20 May 2008

Reports and discussion in the media


Audio: Podcasts

Talking VTE (Episode 8) 17 February 2008; http://talkingvte.blogspot.com/search/label/eportfolio

Blogs

e-Portfolios (ePF): Tool or concept? 8 February 2008; http://rajmmiller.blogspot.com/2008/02/e-portfolios-epf-tool-or-concept.html


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<td>Australian Access Federation</td>
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<tr>
<td>AARE</td>
<td>Australian Association for Research in Education</td>
</tr>
<tr>
<td>AHEGS</td>
<td>Australian Higher Education Graduation Statement</td>
</tr>
<tr>
<td>ALIA</td>
<td>Australian Information and Library Association</td>
</tr>
<tr>
<td>ALTG</td>
<td>Australian Learning and Teaching Council (formerly Carrick)</td>
</tr>
<tr>
<td>ASCILITE</td>
<td>Australesian Society for Computers in Learning in Tertiary Education</td>
</tr>
<tr>
<td>ASLA</td>
<td>Australian School Library Association</td>
</tr>
<tr>
<td>ASMS</td>
<td>Australian Science and Mathematics School</td>
</tr>
<tr>
<td>ATN</td>
<td>Australian Technology Network of Universities</td>
</tr>
<tr>
<td>Becta</td>
<td>British Educational Communications and Technology Agency</td>
</tr>
<tr>
<td>BIHECC</td>
<td>Business, Industry and Higher Education Collaboration Council (Australia)</td>
</tr>
<tr>
<td>Carrick</td>
<td>The Carrick Institute of Teaching and Learning in Higher Education (Australia)</td>
</tr>
<tr>
<td>CDP</td>
<td>Competence development plan</td>
</tr>
<tr>
<td>CDS</td>
<td>Centre for Digital Storytelling — based in Berkeley, California</td>
</tr>
<tr>
<td>CETIS</td>
<td>Centre for Educational Technology and Interoperability Standards (UK)</td>
</tr>
<tr>
<td>CETL</td>
<td>Centres for Excellence in Teaching and Learning (UK)</td>
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<tr>
<td>CHEMP</td>
<td>Centre for Higher Education Management and Policy (University of Wollongong)</td>
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<tr>
<td>CILIP</td>
<td>Chartered Institute of Library and Information Professionals (UK)</td>
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<tr>
<td>CLA</td>
<td>Collegiate Learning Assessment (USA)</td>
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<tr>
<td>CMEC</td>
<td>Council of Ministers of Education Canada</td>
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<tr>
<td>CMS</td>
<td>Content Management System</td>
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<tr>
<td>CPD</td>
<td>Continuing professional development</td>
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<tr>
<td>CRA</td>
<td>Centre for Recording Achievement (UK)</td>
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<tr>
<td>CSHE</td>
<td>Centre for the Study of Higher Education (University of Melbourne)</td>
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<tr>
<td>CWO</td>
<td>Career Wales Online</td>
</tr>
<tr>
<td>DBI</td>
<td>Discipline-based Initiatives</td>
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<td>DEAMES</td>
<td>DEEWR EU Australia Mobilisation of Engineering Students project</td>
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<td>DEEWR</td>
<td>Department of Education Employment and Workplace Relations (Australia)</td>
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<td>DEST</td>
<td>Department of Education Science and Training (Australia)</td>
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<tr>
<td>DETA</td>
<td>Department of Education Training and the Arts (Queensland)</td>
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<td>DETYA</td>
<td>Department of Education, Training and Youth Affairs (Australia)</td>
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<td>DfES</td>
<td>Department for Education and Skills (UK)</td>
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<tr>
<td>eCDF</td>
<td>eLearning Collaborative Development Fund (New Zealand)</td>
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<tr>
<td>Educause</td>
<td>Non-profit association whose mission is to advance higher education by promoting the intelligent use of information technology</td>
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<tr>
<td>EEG</td>
<td>E-Standards Expert Group (Australia)</td>
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<td>EIHEL</td>
<td>European Institute for E-Learning</td>
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<tr>
<td>ELE</td>
<td>Electronic learning environment</td>
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<tr>
<td>EPAC</td>
<td>Electronic Portfolio Action and Communication</td>
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<tr>
<td>EQF</td>
<td>European Qualification Framework</td>
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<tr>
<td>EU</td>
<td>Council of the European Union</td>
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<tr>
<td>FED</td>
<td>Further education</td>
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<tr>
<td>HE</td>
<td>Higher education</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>HEA</td>
<td>Higher Education Academy (UK)</td>
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<td>HEFCE</td>
<td>Higher Education Funding Council for England</td>
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<td>HERDSA</td>
<td>Higher Education Research and Development Society of Australasia</td>
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<td>HRSDC</td>
<td>Human Resources and Skills Development Canada</td>
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<tr>
<td>IATUL</td>
<td>International Association of Technological University Libraries</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>IMS</td>
<td>IMS Global Learning Consortium Inc</td>
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<td>JISC</td>
<td>Joint Information Systems Committee</td>
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<tr>
<td>JOSEPH</td>
<td>Joining up Organisations to Support new Engineering Pathways into Higher Education (UK)</td>
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<td>LiILA</td>
<td>Learning Innovations Forum d'Innovations d'Apprentissage (Canada)</td>
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<td>MOSEP</td>
<td>More Self-Esteem with my E-Portfolio (European project)</td>
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<td>NADE</td>
<td>Norwegian Association for Distance and Flexible Education</td>
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<tr>
<td>NBCT</td>
<td>National Board Certified Teacher</td>
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<tr>
<td>NBPTS</td>
<td>National Board for Professional Teaching Standards (USA)</td>
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<tr>
<td>NCEPR</td>
<td>Inter/National Coalition for Electronic Portfolio Research</td>
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<tr>
<td>NL Portfolio Group</td>
<td>Special interest group of the SURF Foundation</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development (International)</td>
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<td>OSPI</td>
<td>Open Source Portfolio Initiative</td>
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<td>OUNL</td>
<td>Open University of The Netherlands</td>
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<td>PDP</td>
<td>Personal development planning</td>
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<tr>
<td>QAA</td>
<td>Quality Assurance Agency for Higher Education (UK)</td>
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<tr>
<td>QCA</td>
<td>Qualifications and Curriculum Agency (UK)</td>
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<td>QNC</td>
<td>Queensland Nursing Council</td>
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<tr>
<td>RPL</td>
<td>Recognition of prior learning</td>
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<td>SEDA</td>
<td>Staff and Educational Development Association (UK)</td>
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<td>SIG</td>
<td>Special interest group</td>
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<td>SURF</td>
<td>SURF Foundation (The Netherlands)</td>
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<td>TAFE</td>
<td>Technical and Further Education (Australia)</td>
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<tr>
<td>TDM</td>
<td>Tailored Design Method</td>
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<tr>
<td>TENCompetence</td>
<td>The European Network for Lifelong Competence Development</td>
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<td>UR</td>
<td>Swedish Educational Broadcasting Company</td>
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<td>VET</td>
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Appendix: ePortfolio maturity model
1. INTRODUCTION

1.1 Overview

In April 2007, the Australian Learning and Teaching Council (ALTC), then the Carrick Institute for Learning and Teaching in Higher Education, released a research brief for a study to scope the use of ePortfolios in higher education. The commissioned study was required to examine the diverse approaches to ePortfolios for students in Australian universities in order to identify the scope, penetration and reasons for use, as well as the issues associated with, different approaches.

The successful research team comprised four universities: Queensland University of Technology (QUT) as the lead institution, the University of Melbourne, University of New England and University of Wollongong. As the University of Melbourne and University of New England were already leaders of a consortium of 14 universities commissioned by the then Department of Education, Science and Technology (DEST) to develop a single agreed template for a national diploma supplement, the research team provided the linkages required between the National Diploma Supplement study and the ePortfolio research project. QUT has an institution-wide ePortfolio system in place, with more than 40,000 students accessing the tool, and the University of Wollongong has a growing number of student cohorts utilising a mixture of common and specialist ePortfolio tools across the university. The research project was to conclude at the end of July 2008.

1.2 Scope of study

The overarching aim of the research project was to examine the current levels of ePortfolio practice in Australian higher education. Six specific project goals were presented:

| Goal 1: | To provide an overview and analysis of the national and international context related to the development of portfolios, particularly ePortfolios, in tertiary education and schools. |
| Goal 2: | To document the types of portfolios, particularly ePortfolios, used in Australian higher education including the different approaches, purposes, audiences and infrastructure. |
| Goal 3: | To identify any significant issues related to the approaches being developed in Australian education and the likely impact on what is happening in Australian higher education. |
| Goal 4: | To examine the potential relationship with the National Diploma Supplement work being conducted by a consortium of universities led by the University of New England and the University of Melbourne. |
| Goal 5: | To recommend ways to share excellent practice in the implementation and use of ePortfolios. |
| Goal 6: | To identify areas in which further development could be supported and provide advice on how this might be achieved. |

The project sought to investigate these six goals and to examine the key issues associated with ePortfolio practice in Australian universities. A range of research methodologies was used to investigate current practice and to capture data about the scope and relative penetration of ePortfolios: the literature review and environmental scan covering the issues associated with ePortfolio practice nationally and internationally, a preliminary audit of individual Australian universities, and a series of focus groups and semi-structured interviews. As the project team acknowledged the existence of different stakeholders who might well represent divergent perspectives within their institutions, several different survey instruments were developed to record the diverse responses, for example, staff directly involved in learning and teaching (lecturers, tutors, educational developers etc.); academic management (vice-chancellors, deputy vice-chancellors, executive deans, as well as IT/ICT directors etc.); and those involved in human resources (HR, organisational development etc.). Separate surveys were developed for new university students who may be encountering an ePortfolio for the first time, and semi-structured interviews were conducted with students and graduates who had been using ePortfolios for some time.
The questions posed in the surveys were deliberately open and exploratory. The researchers believed it was important to discover the respondents’ own view of the ePortfolio world through open-ended questions, rather than potentially ‘leading’ the respondents by offering them the chance to simply ‘tick the box’ to allocate an answer. The result included a large volume of rich data, which was textually analysed to identify the conceptual issues that underpin ePortfolio practice in Australian universities. At the mid-point of the project, a two-day symposium was held with a number of international speakers leading the discussion on the policies and practices of ePortfolio use in higher education.

The focus groups and semi-structured interviews amplified and enriched the audit findings. There is a strong appreciation — especially at the grassroots level of the education sector where learners interact directly with educators — that ePortfolio opportunities are immense for the Australian higher education sector. ePortfolio policy and practice in other countries seek to draw together the different elements of integrated education and learning, graduate attributes, employability skills, professional competencies and lifelong learning, ultimately to support an engaged and productive workforce. The current state of play in Australian universities is currently fragmented. Ideally, the higher education sector should strive to bring together the different pieces of the ePortfolio puzzle to build a cohesive composition that will benefit individual students, the quality of learning and the value of higher education outcomes.

1.3 Structure of the report

The report has been structured to reflect the different research goals for the project. In this first chapter, the background of the study is provided and specific themes are introduced to contextualise the study: the need for a shared vocabulary as the basis for common understandings about ePortfolio issues; the purposes for ePortfolios; an overview of ePortfolio tools; and an outline of the common activities associated with the ePortfolio process. The discussion in Chapter 2 responds to Goal 6, to identify the areas in which further development could be supported.

As further contextualisation, the research methodologies used in the project are presented in Chapter 3. The analysis of the national and international contexts for the development of ePortfolios (Goal 1) is presented in Chapter 4, while the issues associated with the ePortfolio approaches (Goal 2) are discussed in Chapter 5. Chapter 6 discusses the research findings drawn from the national audit of ePortfolio practice, the regional focus groups, semi-structured interviews and student surveys to provide insights into the different approaches, purposes, audiences and infrastructure (Goal 2). The Australian ePortfolio Symposium, hosted by the research team in February 2008, is also reviewed.

An examination of the potential relationship with the National Diploma Supplement (Australian Higher Education Graduation Statement) project funded by DEST (Goal 4) is discussed in Chapter 7. In Chapter 8, consideration is given to ways in which excellent practice in the implementation and use of ePortfolios (Goal 5) may be supported through the establishment of an ePortfolio community of practice in Australia, as well as through strategies to facilitate collaboration across international ePortfolio groups. The report concludes with a summary of the research activities and the project’s recommendations.

1.4 Towards a shared vocabulary

The literature abounds with definitions of ‘ePortfolio’; it can be argued that the various definitions encompass similar attributes, but there is no single, collectively accepted definition. Consideration must therefore be given to the different terminology for electronic portfolios presented by designers, users and stakeholders. It is also evident in the current research literature that different terminology is employed to present the electronic portfolio in specific contexts.

While the current project promotes the use of the term ‘ePortfolio’, the broad analysis undertaken of practices across Australia and internationally should also take into account terms dependent on the different perspectives of use. For example, early education providers utilise terms such as ‘digital portfolios’, digital storytelling’ and ‘digital learning portfolios’. Higher education uses ‘electronic portfolios’, ‘e-portfolios’, ‘webfolio’ and ‘efolio’. In other contexts (for example, a corporate or business environment) these electronic tools may be referred to as ‘performance management tools’, ‘career management tools’, and ‘personal development records’ etc.
Each term used to describe the electronic portfolio will be dependent on different ownership, user guidelines, criteria, rules and interoperability, and will have been developed for a particular stage of learning or perhaps to support personal development planning. Indeed, it is widely noted that one of the key challenges for emerging projects wishing to establish best practice standards is the lack of a common language, not only within the higher education sector but also between the sector and outside agencies.

The lack of common language and the absence of an easy set of descriptors carry with them a further danger of obfuscation, of reducing ePortfolios to a product as opposed to a process (Barker, 2006). There is, undeniably, a suite of electronic tools that is can be described as an ‘ePortfolio system’, but it is the process by which these tools are used and combined that effectively defines the ePortfolio experience and captures its potential. To depict the ePortfolio as merely a technological tool is to deny the agency and input of its users and much of the pedagogical and other complexities of its use.

Some of the confusion of simply describing ‘what is an ePortfolio’ results from the development of different systems to handle different usage, yet all being grouped under the common banner of ‘ePortfolio’. The situation is further exacerbated in the international context, since there is some slippage in the usage of different terms across countries and systems.

Nevertheless, there are examples of efforts to establish some common understandings. The general characteristics of an ePortfolio are described by the Centre for Recording Achievement (CRA) as being:

- A “repository” for “artefacts”
- A means of accessing personal information, perhaps held in distributed databases
- A means of presenting oneself and ones skills, qualities and achievements to others
- A means of collecting and selecting assessment evidence
- A guidance tool to support review and choice
- A means of sharing and collaborating
- A means of encouraging a sense of personal identity.

(Ward & Grant, 2007)

The various definitions of a portfolio acknowledge that it is a collection of work, objects or items selected by the portfolio author that provides evidence of a particular nature for a particular purpose. An ePortfolio is therefore defined by the nature of the system in which these objects and items are collected, stored and presented. Abrami and Barrett (2005) suggest that an electronic portfolio is a ‘digital container capable of storing visual and auditory content including text, images, video and sound ... they are designed to support a variety of pedagogical processes and assessment purposes’.

The process side of ePortfolio has been further defined as goal setting, continuous reflection, selective communication, social networking across institutional boundaries, developing social capital, practice with a purpose, supporting learner organisation, valorising non-formal and informal learning experiences, supporting instructor planning and management, shifting control from instructor to student, and changing curriculum design up to promoting reform of the traditional education system (Bratengeyer, 2008). The role of an ePortfolio to represent digital identity is also gaining increased attention (European Institute for E-Learning EIfEL, 2008a).

1.5 The purposes for ePortfolios

The fact that there are also multiple purposes for ePortfolios makes the landscape complex. In its ePortfolio specification, the IMS Global Learning Consortium, an association to support standards and best practice in the areas of learning and educational technology, has identified six major types of ePortfolio, providing an example for each type (IMS, 2005):

**Assessment ePortfolios**

Used to demonstrate achievement to some authority by relating evidence within the ePortfolio to performance standards defined by that authority. Rubrics are commonly used to score assessment portfolios. For example, nursing students at a university might be required to submit an assessment ePortfolio that presents evidence that they have a set of competencies defined for nurses in their country as a graduation requirement. Departments or schools may use assessment ePortfolios for accreditation purposes.
Presentation ePortfolios
Used to evidence learning or achievement to an audience in a persuasive way. Presentation portfolios often contain instructions about how their contents should be rendered. Presentation portfolios are often used to demonstrate professional qualifications. For example, a software engineer might create a presentation ePortfolio that incorporates and shows the relationships between professional certifications she has received, code she has written, and her employment history in order to convince a potential employer to hire her. Faculty members might use presentation ePortfolios to collect materials for tenure track review purposes.

Learning ePortfolios
Used to document, guide, and advance learning over time. They often have a prominent reflective component and may be used to promote metacognition, to plan learning, or for the integration of diverse learning experiences. Learning ePortfolios are most often developed in formal curricular contexts. For example, secondary school students might be asked to develop a learning ePortfolio that tracks and allows them to reflect upon how their technology skills improve over the course of a year.

Personal development ePortfolios
Personal development planning is defined in the UK as ‘a structured and supported process undertaken by an individual to reflect upon their own learning, performance and/or achievement and to plan for their personal, educational and career development.’ Thus, an ePortfolio for personal development planning contains records of learning, performance, and achievement which can be reflected on, and outcomes of that reflection, including plans for future development. This could include a learning ePortfolio, but goes beyond that, as it is often related to professional development and employment, so also possibly used as a presentation ePortfolio.

Multiple-owner ePortfolios
Used to allow more than one individual to participate in the development of content and presentation. A multiple owner ePortfolio might combine elements of the above portfolio types, but most likely takes the form of a Presentation ePortfolio when used for such purposes as a website or group blog and a Learning ePortfolio when used by a group of learners to present evidence of their academic growth through the group collaboration. Multiple owner ePortfolios are often used to represent the work and growth of an organisation or organisational unit and, when so employed, may be referred to as program or institutional portfolios.

Working ePortfolios
Working ePortfolios combine elements of all of the proceeding types. They often include multiple views, each of which may be analogous to an assessment, presentation, learning, or development ePortfolio. In the terms of the NLII definition, a working portfolio is the larger archive from which the contents of one or more ePortfolios may be selected. The whole of a working ePortfolio is generally accessible only to its subject, while views are made accessible to other individuals and groups.

The various purposes of the ePortfolios are illustrated by a series of use cases that highlight the different stakeholders and the preconditions for each specific scenario, as well as highlighting the circumstances where the migration or transfer of information may be required within or across institutions:

- Submitting an ePortfolio to an external review system
- Sharing an ePortfolio with another ePortfolio system
- Sharing an ePortfolio to receive feedback
- Moving an ePortfolio between ePortfolio systems.

(IMS, 2005)

In terms of the funding of projects in the UK, the Joint Information Systems Committee (JISC) (2007a) succinctly outlines four principal purposes for ePortfolios, indicating that the areas of use tend to reflect different degrees in maturity of implementation that may, in fact, overlap:

Supporting application
- Providing a selection of material for application for admission to study or job, induction, appraisal or assessment

Supporting transition
- Through presenting a richer picture of learners’ achievements on application, and in better preparing for the transition to a new environment
Supporting learning, teaching and assessment

- Supporting the assessment of learning, evidencing competencies or standards for summative assessment.
- Supporting assessment for learning, encouraging learners to present their experiences, achievements and reflections, share with peers, tutors and employers, and incorporate feedback into their learning.

Supporting personal development planning (PDP) and continuing professional development (CPD)

- Providing scaffolding to support lifelong learners in reflecting on their current and completed learning, achievements and experiences, and on goals and opportunities, to guide learning (formal and informal) and professional development over time.

This framework of ePortfolio practice is used by JISC to guide the organisation’s financial support for research projects (JISC, 2008a).

One of the challenges facing institutions considering (or already involved in) the adoption or implementation of ePortfolios is that there may be multiple interests within the university that represent some, or indeed all, of the different reasons for using ePortfolios. This situation may be compounded by the wide range of ePortfolio systems and tools available to the institution.

Given the range of purposes and applications, ePortfolios can inevitably include a wide variety of information:

- Personal information
- Education history
- Recognition — awards and certificates
- Reflective comments
- Coursework — assignment, projects
- Instructor comments
- Previous employer comments
- Goals and plans
- Personal values and interests
- Presentations and papers
- Personal activities — volunteer work and professional development.

It is stressed that the content of and artefacts included in an ePortfolio ‘should have a purpose — they should demonstrate a skill, an attribute, and learning acquired from experience’ (Siemens, 2004). Siemens discusses the attributes of ‘an ideal ePortfolio system’, which should allow for flexibility in input, organisation, retrieval and display of content and artefacts to support the needs of all stakeholders, including learners, teachers and academic managers (see Figure 1.1).

![Figure 1.1: Attributes of an ideal ePortfolio system](attachment:image)

Flexible input
- each item can carry its own metadata and be treated as a unique object

Organisation
- objects/artifacts can be hierarchically organised in folders

Retrieval
- objects can be searched based on eportfolio owner’s specifications

Display
- items can be grouped and permission granted to intended audience

Figure 1.1: Attributes of an ideal ePortfolio system
The ePortfolio tool needs to be sufficiently versatile to ensure that all four functions effectively meet the needs of all potential stakeholders. Stefani, Mason and Pegler argue that, when compared with paper-based portfolios, it is the digital environment that specifically offers the flexibility ‘to rearrange, edit and combine materials’, ‘to connect documents together’ (for example, through hyperlinking of internal and external resources) and to be ‘portable and mobile’ so that the content ‘can be transported and transferred with ease … can be accessed and used in a variety of locations and can be replicated and shared with others’ (Stefani, Mason, & Pegler, 2007, p. 17f).

1.6 ePortfolio tools

Even a very cursory search of the web for ‘ePortfolio software’ or ‘ePortfolio tools’ inevitably results in an array of resources that highlights the assortment of products and systems available. The landscape is in a constant state of flux, with many new services being launched, but at the same time, support for some older tools is being withdrawn by developers. Efforts have been made to try to categorise the different types of ePortfolio tools, with a dichotomy occurring between the institutionally hosted systems and the individually developed tools:

There is evidence in current literature that for some users and developers, an e-portfolio system is virtually synonymous with an electronic learning environment (ELÉ), whereas for others it is something more contained, individual and limited in facilities

(Stefani, Mason, & Pegler, 2007, p. 9)

Barrett (2007) maintains a website where she categorises the types of ePortfolio tool and provides links to the developers’ own sites. Barrett’s categories include:

- Content management systems (CMS)
- Commercial systems (higher education and teacher education)
- In-house developed systems
- Free website builders with free web space
- Open source tools.
- Blog software and Web 2.0 tools.

In some contexts, common software tools such as Microsoft Word or PowerPoint may be used as the ePortfolio platform. Early adopters of ePortfolio may initially work with a number of different applications that serve different purposes in order to explore the ePortfolio processes, rather than being overly concerned about the functionality of specific tools. Some commentators have described their wish list for an ePortfolio product as a ‘Swiss army knife’, which can in fact detract from focusing on the opportunity to start working with students from the ground up.

Stefani, Mason and Pegler (2007) have refined the range of categories to present the benefits and drawbacks of four types of system currently being used in higher education:

- Commercial software (which includes CMS with an ePortfolio module)
- Proprietary systems (often designed by universities)
- Open source ePortfolio software
- Open source common tools (such as web authoring tools).
The following table presents a brief summary of some of the key points to be considered.

**Table 1.1: Categories of ePortfolio system**

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<thead>
<tr>
<th>Type of software</th>
<th>Benefits</th>
<th>Drawbacks</th>
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<tbody>
<tr>
<td><strong>Commercial software</strong></td>
<td>No direct software development costs</td>
<td>Licences must adapt to vendor’s pricing structure</td>
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<td></td>
<td>Technical support handled by the vendor</td>
<td>Customer service and technical support may be poor</td>
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<td></td>
<td>Choice of software system</td>
<td>Requests for adaptation may be slow and expensive</td>
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<td></td>
<td>CMS may have built-in ePortfolio solution, offering integrated environment</td>
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<tr>
<td><strong>Proprietary (in-house) systems</strong></td>
<td>Institution develops exactly what it wants</td>
<td>Development costs can be prohibitive</td>
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<td></td>
<td>No software licence fees</td>
<td>May require time and energy to build</td>
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<td></td>
<td>Institution owns intellectual property</td>
<td>High levels of technical expertise required to build and maintain the</td>
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<tr>
<td></td>
<td></td>
<td>system</td>
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<td></td>
<td></td>
<td>Need to retain expert staff to sustain and scale the system</td>
</tr>
<tr>
<td><strong>Open source ePortfolio software (OSPI)</strong></td>
<td>No charge for open source software</td>
<td>Costs associated with technical support and maintenance</td>
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<td></td>
<td>Members of OPSI participate in software development</td>
<td>Possibility of open source initiative drying out and/or the community</td>
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<td></td>
<td>OSPI designed to work with Sakai Project</td>
<td>disbanding</td>
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<tr>
<td><strong>Open source common tools</strong></td>
<td>More creative ePortfolios are possible</td>
<td>Students need web authoring skills</td>
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<td></td>
<td>ePortfolio creators can design and enter artefacts in any way they choose</td>
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<td>Low software costs</td>
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As with any eLearning application, the issues to be considered by individual teachers, faculties or institutions are multifaceted. These issues may include:

- Licensing conditions
- Development costs
- Maintenance costs
- Level of integration with campus-wide systems
- Degree of adaptation desired
- Level of technical support available
- Quality of vendor support
- Speed of implementation prescribed
- Potential longevity of a system or a project
- Degree of structure and guidance required for users
- Degree of creativity offered to the users
- Level of ICT literacy amongst students and educators.
In the lead up to the Australian ePortfolio Symposium held in February 2008, an ePortfolio Showcase was hosted by QUT (see Section 6.5.2). The event, attended by 70 people representing more than 20 different Australian and New Zealand universities, included nine presentations of ePortfolio applications that offered insights into open source (Sakai, Open Source Portfolios and Mahara), commercial (Blackboard, PebblePad, Desire2Learn and CareerHub) and proprietary (QUT). The contexts for the ePortfolios encompassed national initiatives, institution-wide projects and discipline based applications. Feedback from participants was very positive: they appreciated the opportunity to see the different ePortfolio systems and to talk with some of the vendors and users of the various tools. Links to the individual presentations have been provided on the ‘Showcase’ page of the Australian ePortfolio Symposium website (www.eportfoliopractice.qut.edu.au/symposium/showcase.jsp).

On her website, Barrett (2007) compares a number of different ePortfolio tools, provides information about the issues of hosting, storage space, licensing and maintenance costs, and discusses her views about different tools. The systems she lists include Plone, Blackboard, Drupal, Folio Live, iWebfolio, Open Source Portfolio Initiative (OSPI), KEEP Toolkit, eFolio Minnesota, Epsilen, Elgg, WordPress, WikiSpaces etc.

Sweat-Guy and Buzzetto-More (2007) have prepared a review of eight widely available systems, comparing a range of features such as intended user groups, supporting file types, storage, accessibility, hosting options, vendor support and pricing. The platforms reviewed are predominantly North American, including ePortfolio (Chalk & Wire), Foliotek, LiveText, TaskStream, Tk20, TrueOutcomes, Blackboard Portfolio Platform and Open Source Portfolio Initiative (OSPI). The review provides a comparison of different features of ePortfolio tools, but acknowledges that each institution will need to soundly consider the role and purpose of ePortfolios within their own context: ‘There are any number of considerations that may influence the electronic portfolio adoption process. Uses, needs, and stratagem may vary and some features may be more important than others’ (Sweat-Guy & Buzzetto-More, 2007).

Lorenzo Associates, Inc. (2008) has recently launched a website that offers detailed coverage of ePortfolio system vendors and their products. Subscribers can access interviews with the vendors about the features of the systems, as well as client case studies about the adoption, implantation and future use of the tools. The first four products reviewed are Chalk & Wire, Digication, LiveText and TaskStream.

Nuventive LLC (2008), developer of the iWebfolio software tool, has prepared an analysis tool to support stakeholders with system evaluation and decision making. The checklist covers a number of factors relevant to the different ePortfolio stakeholders (owners, reviewers and system administrators) as well as some key issues associated with assessment tasks, reporting requirements and technical specifications (for example, security, file compatibility etc.). While no single checklist can be totally comprehensive, the document may be used to stimulate enquiry and discussion about the features and functionality of different systems.

1.7 The ePortfolio process

Regardless of the specific purpose for the ePortfolio and of the actual software platform or the type of tool used, there are some common activities involved in the process of developing an ePortfolio. It is often referred to as a ‘Plan–Do–Review’ cycle (Pallister, 2007), which reflects the theories of Kolb’s Learning Cycle (Kolb, 1984) and the theories of Action Learning (McGill & Brockbank, 2004).
Chapter 1: Introduction

A relatively simple model for creating an ePortfolio identifies four central activities: Collect, Select, Reflect, Publish. Ithaca College in New York State, USA, provides learners and teachers with detailed guidance about the use of ePortfolios at the institution, acknowledging the work undertaken at Penn State University (which has a long-established ePortfolio environment). Particular attention is paid to the four-stage ePortfolio process (Ithaca College, 2007).

The ePortfolio process

‘Collect, Select, Reflect, Publish’

*Taken from the Penn State e-Portfolio site (http://portfolio.psu.edu)*

Penn State University describes the ePortfolio process as ‘Collect, Select, Reflect, Publish,’ a fitting slogan for the steps involved in creating the online representation of an individual’s work and thoughts. Each step in the process is a crucial part of the development of an ePortfolio.

The first step, Collect, is the process of gathering evidence of academic, professional, or personal growth; projects from classes, work from internships, certifications or commendations, and work from co-curricular activities are all examples of evidence. Evidence comes in many forms and many formats, but for an ePortfolio, a piece of evidence must be in a format accessible on the Web. This step also involves the preparation or translation of evidence into a Web-ready format such as PDF (Portable Document Format), Microsoft Word, JPEG, etc.

Second is Select; this step involves examination of a collected body of evidence and the selection of those pieces of evidence that are most representative of an individual's work. Even though most work represents some aspect of an individual's thoughts and growth, not all pieces of evidence are appropriate for an ePortfolio or for the Web. This is an important step and cannot be skipped; an ePortfolio should not inundate the viewer with redundant evidence, but neither should it under-represent its creator. This step and the one after it, Reflect, also involve the actual creation of an ePortfolio using the IC Web Profiler.

Reflect is the most personal part of the ePortfolio process; this step involves reflection and discussion of what an individual has learned. An ePortfolio should not be just a collection of work and evidence. It should also contain evidence of academic, intellectual, and personal growth. It is important to not only present hard evidence of work, but to also simultaneously present the lessons learned or the growth achieved through the completion of the work presented. An ePortfolio isn’t just about what has been done; it is about what has been learned.

Finally is the step Publish. This is the process of posting an ePortfolio to the Web server, making it accessible to the Ithaca College community or to the Web-viewing public. However, this is not a purely technical process, as careful thought must be given to the intended audience of an ePortfolio, and the potential impact of the evidence presented.
In other ePortfolio contexts, the final step in the process is seen as the opportunity to connect the different aspects of an individual’s life (Siemens, 2004):

1. **Collecting** items for the portfolio
2. **Selecting** items best able to demonstrate competence
3. **Reflecting** on the items selecting in order to demonstrate learning derived from experiences
4. **Connecting** various aspects of life — personal, learning, work, and community.

In this way, the ePortfolio has the potential to establish connections between the different phases of the individual’s life, work or learning:

- **What? (The Past)** What have I collected about my life/work/learning? (my artefacts)
- **So What? (The Present)** What do those artifacts show about what I have learned? (my current reflections on my knowledge, skills and abilities)
- **Now What? (The Future)** What direction do I want to take in the future? (my future learning goals)

(Barrett, 2008)

At LaGuardia Community College, the maturity of the work with ePortfolios has been recognised, so that it is felt that the staff are now ready to use the ePortfolio process ‘to improve the connection between students, faculty and learning’ (LaGuardia Community College, 2008).

### 1.8 Summary

The brief overview of the concepts, purposes, tools and processes associated with ePortfolios represents an introduction to the context and background of the topic of the report. The Australian ePortfolio Project has been an intense, but wide-ranging project that has involved a spectrum of stakeholders who have been able to help the project team develop a rounded view of current ePortfolio practice in Australian higher education. The following chapters consider the changes that have taken place in recent years in the learning and teaching environment, and some of the policy drivers that have led to the implementation of ePortfolios in education and employment. Both the domestic and international contexts are examined, with a focus on the two levels of policy and practice.

With the Review of Australian higher education (Department of Education, Employment and Workplace Relations DEEWR, 2008a) coinciding with the later stages of the ePortfolio project activities, it is acknowledged that the university sector faces a number of challenges. In the next chapter the research team presents some of the critical issues associated with the potential for further ePortfolio development in this country, specifically focusing on government policy, international standards, academic policy and the learning and teaching context. Four scenarios are introduced to stimulate thoughts about the possible options that might either stimulate or restrict engagement with ePortfolios in tertiary education.
Goal 6: To identify areas in which further development could be supported and provide advice on how this might be achieved

2.1 Overview

In Chapter 1, an introduction was offered to ePortfolios at the broadest level. The question of a shared understanding was discussed, which led into an overview of ePortfolio ‘tools’ and ePortfolio ‘processes’, with particular reference to the teaching and learning points of view. The present chapter continues the prologue, to paint a broad brushed picture of the issues associated with the implementation of ePortfolios in universities. The diverse purposes of ePortfolios should not be forgotten: the term ‘ePortfolio’, as a singular, cohesive entity should be avoided, as stakeholders need to be aware of the different roles that ePortfolios (plural) can play in education in general, and in higher education in particular.

Learning, in theory and in practice, has changed dramatically over the past decade, challenging and enabling universities to consider the opportunities for new ways of delivering their education programs. The focus has moved away from the traditional teacher-centric model of discipline-specific classroom activities to embrace a learner-centred model that offers accessibility, adaptability, flexibility and personalisation and supports individual, social and collaborative processes. Developments in information and communications technologies (ICT) are changing the way we think about learning theories, strategies, activities and outcomes. In July 2008, British Educational Communications and Technology Agency (Becta) the agency responsible for technology in learning and thus for delivering the UK government’s e-strategies for education and lifelong learning, announced that the use of technology in learning was ‘no longer optional’ (Becta, 2008). Becta argues that technology has the potential to transform learning in all areas of formal and informal education, so that:

> every type of educational institution [needs to] commit to technology and to adapt it for the needs of their students. Indeed, many are already using technology innovatively and imaginatively. But it is not easy - it requires effective leadership, investment and a willingness to experiment

(Becta, 2008)

Indeed, in Australia too, ICT developments represent an important aspect of the eLearning agenda.

eLearning is complex: it encompasses — and potentially integrates — the broad spectrum of issues that are fundamental to learning and teaching, including academic policy, technology, pedagogy, organisational and cultural issues. The key stakeholders within the university include the learners themselves, teachers, academic managers, ICT managers, learning technologists and learning designers, as well as careers and employment advisors. Beyond the university, stakeholders include employers and professional bodies who are concerned about graduate qualities and employability skills. eLearning is also seen to be instrumental in fostering a widespread interest in lifelong learning.

In Europe, the development of eLearning technologies and strategies led to the vision of an ‘ePortfolio for all by 2010’ to support the concept of lifelong learning. In the context of higher education, ePortfolios — electronic or digital portfolios — focus on the individual student experience to demonstrate learning not only within the academic setting and in transition to work, but also within community and employment settings. National policy and lifelong learning initiatives in the UK have seen engagement with ePortfolios to guide professional development planning (PDP) and career progression over time.

One of the primary responsibilities to be fulfilled by the Australian Learning and Teaching Council (ALTC), formerly the Carrick Institute for Learning and Teaching in Higher Education, was to consider the improvement of assessment practices throughout the higher education sector, including the investigation into the feasibility of a national portfolio assessment scheme (Carrick, 2006).
The interest in a possible national scheme was influenced by the concept of the Higher Education Progress File in the UK, which, it was recommended, should consist of two elements: ‘a transcript recording student achievement … and a means by which students can monitor, build and reflect upon their personal development’ (Dearing, 1997; QAA, 2001). The current project, the Australian ePortfolio Project, was commissioned by the ALTC to examine the current usage of ePortfolios by university students in Australia. In this chapter of the report, the critical issues associated with ePortfolio practice in higher education are introduced to develop an understanding of these issues through the lenses of the different stakeholders involved in the educational potential offered by ePortfolios.

The ePortfolio picture is undeniably multifaceted. ePortfolios can be used in many diverse education and employment situations, inevitably with a wide spectrum of purposes and a range of different audiences. They may also be implemented using a variety of software tools. The lack of a common language has led to confusion amongst practitioners about the ePortfolio product and the ePortfolio process. The project investigation identified four individual, yet interrelated, contexts where strategies may be employed to support and foster effective ePortfolio practice:

- Government policy
- Technical standards
- Academic policy
- Learning and teaching.

If the higher education sector is to effectively fulfil its role in producing skilled professionals who will play a significant role in the future success of the Australian community and economy, then the potential of ePortfolios to bring together educational technologies and quality learning processes to provide evidence of individual achievement and employability skills should not be ignored. Policies and strategies are required at both the sectoral and institutional levels to ensure that advantage is taken of the opportunities for connectivity and cohesion in the fragmented world of eLearning, flexible delivery, social networking and mobile technologies.

There needs to be open dialogue and collaboration between the stakeholders across the range of contexts, encompassing the learner (who is central to the field of study), those in the learning and teaching environment, and those involved in the areas of academic policy, government policy and technical standards. These domains are presented as the critical areas in which further development may be required to effectively support ePortfolio practice. This chapter includes a series of recommendations which, when set against the more detailed analysis of the national and international contexts of and issues associated with ePortfolio practice in the following chapters, might serve to provide a reference point for the possible directions for ePortfolios in Australian higher education. Four brief scenarios are presented at the conclusion of the chapter to stimulate thoughts about the type of stakeholder strategies required if the future opportunities are to be realised.

### 2.2 The government policy context

The current Federal Government has, through the creation of the Department of Education, Employment and Workplace Relations (DEEWR), highlighted the significant relationships between education, training and workforce participation, specifically to support innovation and productivity to ensure ongoing national economic development and growth. The present Review of Australian Higher Education seeks to examine the capacity of the higher education system to effectively respond to the needs of industry by contributing to increased participation in the professional labour market (DEEWR, 2008a). The Government is specifically concerned with establishing a policy environment that will enhance the quality of education, encourage widened access to education opportunities, and support integration between vocational education and training and higher education to develop a highly skilled workforce, committed to lifelong learning.

Issues of concern to Australia include the need to understand the future skills demands, to overcome current and emerging skills shortages and to focus on retraining and up-skilling the workforce to address the factors that may lead to skills obsolescence, under-employment or even unemployment.
The Government has recognised the potential value of ePortfolios to support the Employability Skills Framework by providing funding for an ePortfolio initiative to allow people to:

- record their academic, vocational and employability skills to support job applications, career planning, and entry into further education and training... [and to] assist school graduates to document their academic and vocational training and employability skills gained through community activities, and assist mature-age people to document their skills against the eight employability skills

(Department of Education, Science and Training DEST, 2007)

It has been argued that the development of an ePortfolio is not only an appropriate strategy for students to record examples and make visible the evidence of their employability skills, but it also represents the vehicle for teachers and employers to assess the skills acquired.

Students are encouraged to learn to collect evidence holistically, across the different aspects of their lives. Accordingly, ePortfolios have the potential to support a learner’s conceptualisation of their capabilities and their personal and professional attributes. Knowledge creation and knowledge transfer make a significant contribution to the nation's capacity for innovation and productivity and, by extension, international competitiveness. Peak employer groups such as Business Council of Australia, the Australian Industry Group and the Business, Industry and Higher Education Collaboration Council have underscored the importance of high level, relevant graduate employability skills as a key factor in the future prosperity of Australia. Employers and professional associations represent further significant stakeholder groups. It is apparent that in Australia to date, there has been very little engagement with ePortfolios for recruitment or career planning processes. Professional associations, especially those with a clearly articulated base of professional standards and competencies (such as in the fields of nursing and teaching) are making progress toward a portfolio approach to professional recognition and career development. By focusing on the achievements of the new graduate and their ongoing learning through workforce development and continuing professional development, professional and employer bodies can help forge links with the key dimensions of the Government's employability policies.

An individual student’s journey from school to work is no longer linear — no longer a direct path from school to training to university. There is increasing evidence of the multiple avenues of transition within and between vocational education and training and higher education; work is concurrent with study, and the former divide between vocational and professional learning has become blurred. Student mobility sees them move not only between the sectors, but also across institutions or even across faculties within the same institution. With a clearer focus on the potential of ePortfolios to record and assess employability skills in vocational arenas, it is essential that students are not only provided with the opportunity to continue their ePortfolio practice if they move from a TAFE into a university, or to ensure that ePortfolio work undertaken at university will be portable if they move into a vocational program, but that they can also migrate between institutions and between programs. As greater emphasis is placed on the value of congruency between the different government policy arenas, ePortfolios offer the potential to be a meaningful medium for convergence and integration of education and training. Importantly, a sound and coherent national infrastructure is required to achieve the desired goals; indeed, the issues of education, training and lifelong learning cannot be isolated from the issue of equitable access to broadband services in Australia.

Recommendation 1

It is recommended that the government departments with responsibilities for education engage with peak industry, professional and employer bodies to develop a shared understanding of the potential of ePortfolio practice to articulate employability skills.

Recommendation 2

It is recommended that government policy recognise ePortfolio practice as a strategy to build an integrated relationship between higher education and the vocational education and schools sector, in order to support the individual's lifelong and lifewide learning needs and to increase the potential for career progression.
2.2.1 National Diploma Supplement (Australian Higher Education Graduation Statement)

The project team was asked to examine the potential relationship with the Development of a National Diploma Supplement project funded in 2007 by the then Department of Education, Science and Training (DEST), which sought to develop an agreed template for an Australian equivalent to the European diploma supplement currently being provided to graduates by higher education institutions in some 45 European countries. The project was undertaken by a consortium of 14 universities, led by the University of New England, University of Melbourne, and Australian National University in consultation with the higher education sector and other relevant stakeholder groups.

The project recommended the introduction of an Australian Higher Education Graduation Statement, which will take the form of documentation provided to graduates by awarding institutions in addition to the degree or diploma certificate or testamur. Its purpose will be to make qualifications more portable and their value more transparent by providing descriptions of the nature, level, context and status of the studies that were pursued and completed by graduates, as well as information about the education system to which the qualification belongs.

The concept of the Graduation Statement has the following attributes: it is a secure document containing authenticated information regarding a single academic award conferred on an individual, compiled and verified by the awarding institution. As such, it is conceived as a static snapshot at the time of graduation. The concept of an ePortfolio, on the other hand, is a dynamic, continually evolving resource, containing both authenticated and unauthenticated information about a broad range of academic and non-academic activities and achievements.

While the institution has responsibility for the production of a Graduation Statement, the individual learner is responsible for the development and release of the ePortfolio. It is acknowledged that the Graduation Statement may be referred to and added as an artefact to a learner’s ePortfolio and, in the future, there is some potential for institutions to consider including authenticated aspects of a student’s ePortfolio as an element of the Graduation Statement.

Recommendation 3

It is recommended that the higher education sector acknowledge the role of the Australian Higher Education Graduation Statement as an authenticated document reporting student achievement, compiled and verified by the academic institution at the time of graduation, while further acknowledging the value of the ePortfolio process to articulate the integrative aspects of student learning.

2.3 The standards context

Learner mobility within and between education, training and employment sectors, set alongside the concepts of lifelong learning and the global education market, are significant drivers for the requirement to move beyond static repositories to ensure ePortfolio data is secure, accessible and able to be exported and imported across different systems and services. ePortfolio specifications are the focus of work being undertaken by IMS Global Learning Consortium and the JISC Centre for Educational Technology Interoperability Standards (CETIS) in the United Kingdom. Meanwhile, the emerging Web 2.0 technologies and services bring new perspectives to the standards-driven approach to portability and interoperability. Researchers are arguing that social networking initiatives like MySpace and Facebook encompass, and may even threaten to subsume, aspects of the ePortfolio concept.

A recent document published by the Australian Information and Communications Technology in Education Committee (Croger Associates, 2007) has highlighted the importance of collaboration in the education and training sectors, nationally and internationally. A meeting was held at the Australian ePortfolio Symposium in February 2008 to bring together a group of nationally and internationally recognised experts, broadly representing the various areas of education government. Australia, through DEEWR, is already a party in the international eFramework for Education and Research project,
working with JISC in the UK, the SURF Foundation in the Netherlands and the New Zealand Ministry of Education, which means that there is a strong foundation for technical interoperability within and across the education sectors.

The standards expert group operates as an example of a community of practice that has been collaboratively developing the vocabularies and ontologies that support a shared language to underpin the relationships and mapping of ePortfolio practice across the different sectors and contexts. By participating in the IMS ePortfolio standards initiative (2008a), the working group progresses the dialogue about formal ePortfolio specifications, open standards and the dynamic and evolving web services to review and evaluate the positive and negative aspects of the process. To avoid reinventing the wheel and to encourage innovation, the working group provides an opportunity for ICT managers and policy makers to adopt the IMS standards to facilitate the exchange of information and data across institutional, sectoral and jurisdictional boundaries.

**Recommendation 4**

It is recommended that Australian ePortfolio stakeholders continue to develop the collaborative relationship with partners in the eFramework for Education and Research initiative, in order to ensure that aspects of ICT in education and research are developed and implemented strategically.

**Recommendation 5**

It is recommended that the international information standards for ePortfolio practice be adopted as an Australian technical framework, in order to facilitate the exchange of information and data across institutional, sectoral and jurisdictional boundaries.

### 2.4 The academic policy context

Many of the barriers to effective ePortfolio practice identified in the research activities (discussed in Chapter 6) relate to the perceived lack of support at the policy level within higher education institutions. Effective ePortfolio practice requires academic managers across the university to have a broad understanding of the benefits and value that ePortfolios can bring to the learning, teaching and development processes, so that an ePortfolio culture becomes an integral aspect of the academic environment. All those engaged in the institution’s learning and teaching policy environment need to be conscious of the potential of ePortfolios, when integrated into current and future eLearning strategies, to contribute to student-centred learning strategies, transparent learning outcomes and the relevant employability skills for graduates.

Significantly, the successful adoption and implementation of ePortfolios require strong alignment between the strategic, tactical and operational areas of academic management. Universities need to foster an environment where the conditions are conducive to strong innovative practice supported by:

- clear communication within and across the university to ensure the diverse faculties and divisions speak a common, collaborative language
- strategic and technical leadership that champions exemplars of good practice that may be mapped to institution-wide practice
- cohesive approaches to different and overlapping responsibilities in terms of the management and funding of an ePortfolio infrastructure
- sound investment in staff development, reward and recognition in both the academic and professional areas.

**Recommendation 6**

It is recommended that academic policy in higher education institutions recognise the value of ePortfolio practice as a component of different pedagogies that enhance the quality of learning and teaching across the institution.
2.5 The learning and teaching context

Within universities, an increasing number of academics are introducing ePortfolios into their learning and teaching activities as an enabling process that encourages students to engage with their learning. In particular, the ePortfolio process is found to be capable of supporting authentic learning activities, professional practice, work-integrated learning and flexible models of program delivery, all valuable strategies in the development of work-ready graduates. There are examples of innovative practice across different disciplines, in different faculties and schools, often commencing in a single subject. Early adopters of ePortfolio practice have underscored their initial sense of isolation, realising that they would benefit from opportunities for collaboration and shared practice. However, specific challenges are associated with both sustainability and scalability of projects.

There are many options available in terms of the types and functionalities of ePortfolios, especially when a pilot or experimental project is required to develop beyond the initial implementation to a cross-faculty, inter-faculty or institution-wide system, with new and diverse stakeholders becoming involved. Various areas of the university will inevitably have differing purposes for ePortfolio activities and will not all be at the same stage of preparedness, nor will the staff necessarily share the same level of commitment.

Effective academic policies concerning ICT infrastructure and academic development are critical for a successful iterative process of scaling up ePortfolio projects.

The research team is currently developing a preliminary ePortfolio Toolkit comprising a series of guidance notes designed to inform the various ePortfolio stakeholders in higher education about issues of ePortfolio adoption. The Australian ePortfolio Symposium held in February 2008 successfully offered a forum for ePortfolio practitioners to meet and discuss their understandings and their experiences. Internationally, there are examples of communities of practice that not only provide effective channels of communication between educators with shared interests, but also, importantly, encourage scholarship and research.

Recommendation 7

It is recommended that the various stakeholders in higher education who are interested in ePortfolios utilise the ePortfolio Toolkit (under development) to guide and inform their practice.

Recommendation 8

It is recommended that ePortfolio stakeholders establish a Community of Practice to share learning and experiences of quality ePortfolio practice in higher education, in order to foster scholarship and research and to provide a forum for dissemination about good practice.

Recommendation 9

It is recommended that a regular Australasian conference be convened to explore and discuss ePortfolio research and practice.

2.6 The context of the learner

The learner is, of course, central to the learning process. Learning takes place in many different situations, both formal and informal, and can be viewed as lifelong and lifewide. Nevertheless, the structural and developmental aspects of formal education programs can stimulate learners to become active participants in their own learning in order to gain a deeper understanding of the knowledge and skills that they acquire and the progress they make. An ePortfolio, as a product, provides a personal space where students can collect the digital artefacts that present evidence of their experiences and achievements, articulating actual learning outcomes. The ePortfolio, as a process, allows students to move beyond the notion of what they have learned to consider how they have learned. It enables students to better understand the connections inherent in the creative process of learning: by identifying and
selecting learning experiences, by reflecting on their skill development, and, by sharing, collaborating and presenting the evidence to others, they are able to make sense of their own complex stories.

The ePortfolio provides an opportunity for linkages between learning and assessment, with the focus changing from assessment of learning to assessment for learning. ePortfolios support pedagogical approaches that foster student motivation for learning and student engagement with their learning by highlighting progress and achievement, as opposed to failure. Effective learning occurs when learners ‘understand what it is they are trying to achieve – and want to achieve it’ (Qualifications and Curriculum Agency (QCA), & Assessment Reform Group, 2002), so through their ePortfolio learners can contribute to the development of learning goals and monitor the progress they make. The ePortfolio can not only be used as a forum for participation, collaboration and constructive guidance in the learning and assessment activities, but also, through self-reflection and self-evaluation, as an environment that encourages the independence, initiative and confidence of the learner. Beyond the direct support for learning, individuals can draw on the ePortfolio to:

- support their transition into employment or further education
- provide evidence of their achievements and competency attainment when applying for a job or for professional standing
- scaffold their career development over a period of time.

### 2.7 Further research

Compared with other countries such as the United Kingdom, the Netherlands and the United States of America, Australia is in the early stages of ePortfolio practice. The current research activities, through the surveys, focus groups and the Australian ePortfolio Symposium, have not only raised awareness within the higher education sector about ePortfolios as both product and process, but also intensified the interest of academics in engaging with and deepening their understanding of the contribution of ePortfolios to learning, both within and beyond university. There is immense scope for further research into and analysis of the impact and potential of ePortfolios in higher education: the diverse dimensions of knowledge construction, student attitudes, new teacher roles, employer expectations, eLearning-supported pedagogies, emerging technologies, organisational factors, interoperability etc.

In the more mature ePortfolio contexts, there are close linkages between research and practice. The Australian Learning and Teaching Council has a vital part to play in facilitating collaborative research in the area, specifically to investigate how ePortfolios might be used to achieve transformation in key areas of educational and workforce policy.

#### Recommendation 10

It is recommended that the Australian Learning and Teaching Council adopt a leading role to foster and support further research into the educational benefits of ePortfolio practice.

### 2.8 Scenarios for the future

In the context of ePortfolio practice in higher education in Australia, one of the big questions to ask is: What might the future hold? While once again, the diversity of purpose for ePortfolios in education is underscored, the project team puts forward four scenarios for the future, to serve as a backdrop to the report and to encourage an enquiry-based review of the issues presented. The four scenarios are:

- A national ePortfolio for all model
- A locally driven ePortfolio model
- A Web 2.0 model
- A zero action model

The structuring device of two scenario-axes is used (Figure 2.1), with one axis representing the continuum of Freedom to Control, and the second representing the continuum of Stasis to Progress. The attributes of chaos, rigidity, strategy and innovation come into play within the scenario framework.
Each scenario is brief and sharply focused, highlighting the main characteristics of each option and some of the key implications that could eventuate from each respective model.

### 2.8.1 A national ePortfolio for all model

The national model assumes a single ePortfolio system for all learners, and potentially workers and citizens.

**Characteristics**

This model assumes that it will be government-owned and government-driven, thus supported by relevant policy and strategy at a national level. In terms of infrastructure, it will require top-down implementation and centralised management. This ‘one-size-fits-all’ option assumes interoperability is completely assured.

**Implications**

The model will require consensus regarding the system to be implemented, with the need to ensure an orderly rollout and the motivation for speedy adoption by the various stakeholder groups. Tensions may exist between the government's own strategic positioning, state government priorities and the operational realities of individual institutions. There are potentially concerns about a ‘big brother’ approach to education and career development, which may result in some degree of resistance and a reduced sense of ‘ownership’ and commitment on the part of institutions, educators and learners, as well as limited engagement on the part of employers and the professions. Doubts will be cast about the potential of a single system to meet the needs of all players, with concerns about the lack of flexibility and the limited opportunity for creativity and innovation. Inevitably the questions of funding, support, staff development and sustainability will be raised. Civil libertarians are likely to debate the issues of individual privacy, security and access, aligned with the concerns regarding a national identification system for all Australians.

The national ePortfolio model is placed in the quadrant between the ‘Control’ end of one axis and, in terms of the degree of potential innovation, towards the ‘Stasis’ end of the second axis. **Rigidity** counters the potential for innovation, but the **strategic** dimension is very strong.

### 2.8.2 A locally driven ePortfolio model

The locally driven model is developed within the higher education sector but is aligned with cross-sectoral interests. Government policy drivers ensure that incentives are offered for ePortfolio initiatives. The model accommodates both institutional autonomy and the multiple purposes of ePortfolios themselves, with audiences including the individual learner, peers, teaching staff, mentors and employers.

**Characteristics**

The primary need will be to focus on the educational benefits of ePortfolios to support the process of learning, underpinned by cognisance of student mobility and initiatives in the vocational and employment sectors so that account is taken of technical standards and interoperability. The ePortfolio platform is provided by individual institutions, or potentially by a university alliance, with the understanding that the ePortfolio itself is student-owned.

**Implications**

The model allows for progressive rollout and adoption of ePortfolio applications. The ePortfolio systems will be flexible to support some degree of creativity and innovation within the required data structures that permit migration of packets of data between systems. Ongoing development is feasible. There is likely to be a wide range of practice illustrating differing levels of maturity within the institution and across institutions but there are strong drivers to share knowledge and experiences through communities of practice. Institutional support encompasses academic policy and support through ICT
infrastructure, academic development and university careers services, with a strong focus on embedding ePortfolios in the curriculum to achieve specific learning outcomes. Student ownership fosters engagement with the process, with increased interest shown by employers and recruiters resulting from staged consultation.

The locally driven model sits about midway along the ‘Control–Freedom’ continuum, and towards the ‘Progress’ end of the second axis. The scale tips towards strategy, rather than chaos, but the potential for innovation outweighs rigidity.

2.8.3 A Web 2.0 model

In this model, the focus is on the emerging developments in Web 2.0 and social networking technologies, rather than on any ePortfolio products or tools.

Characteristics

The model is characterised by the absence of any formal systems development, which infers that there is potentially a place for overarching policies but there is no actual strategic direction. The Web 2.0 approach offers the opportunity for a very high level of innovation, but this is completely dynamic and unguided.

Implications

No official rollout is required, which will mean a broad spectrum of readiness from institutions, although some may consider adopting a portal approach for students and staff to access the different tools. Universities may need to revisit their student internet usage policies to ensure the access limits are adequate (or fully removed). The portfolio activities are totally user owned, with an immense range of approaches and levels of maturity evident, but arguably subject to ever-evolving technological trends. Adoption by student users may be speedy, but not all academic staff may have the required level of ICT skills, so academic development activities need to be considered. Sceptics may be concerned about the commercial goals of the hosting services, especially in terms of data ownership, access and security. An inherent risk exists: the changing commercial environment may actually be antithetical to the needs of the education sector. Meanwhile, the need for interoperability between systems diminishes in importance. However, there is a high chance of a strong level of engagement on the part of employers due to the in-built familiarity with the tools, although there will not necessarily be a clear demarcation between ‘personal’ and ‘professional’. It may be difficult to directly align the portfolio process with specific learning objectives, but peer support and collaboration will be encouraged. This model suits the development of communities of practice.

The Web 2.0 model is situated at the ‘Freedom’ end of the first axis and at the ‘Progress’ end of the second axis. There is the potential for the approach to be highly innovative, but with the danger of being somewhat chaotic in nature. However, Web 2.0 developments will inevitably evolve, with or without any connection to ePortfolios, and ultimately morph into the as yet ill-defined Web 3.0 environment.

2.8.4 A zero action model

In this model, the status quo ePortfolio situation in Australia can continue. There would still be pockets of interest with individual academics within institutions developing grassroots initiatives, possibly aligned with professional standards, and with some institutional champions emerging. There would, however, be an absence of policy and strategy locally, with no focus on sector-wide or cross-sector initiatives. There would be little incentive to progress the work on international standards or interoperability.

This model is perhaps a neutral one, one that sits heavily at the ‘Stasis’ end of the first continuum, but with no real connection with ‘Freedom’ or ‘Control’. However, it is unlikely that, in the 21st century, the zero action model would be sustainable. With no institutional or sector drivers for change, Scenario 3, the Web 2.0 model, is likely to emerge, simply due to the nature of social and community activity.
2.9 Summary

This chapter has endeavoured to introduce the different contexts for and stakeholders in ePortfolio practice. The four scenarios are presented as ‘food for thought’, as a background to the topics discussed in more detail in the body of the report. The easiest option is inevitably to adopt the zero action model and do nothing. However, the diverse stakeholder groups, as they read and interpret the report, are invited to consider the position that holds the greatest value to them. While the recommendations made in the report are presented as stimuli for increased engagement in ePortfolio practice, they should not be taken in isolation. The analysis presented in Chapters 4 and 5 provides the current national and international context, as well as the policy and practice issues that are central to higher education in Australia. The next chapter outlines the research methodologies that have been used for the collection of data in the Australian ePortfolio Project. The research findings are presented in detail in Chapter 6. Chapter 8 considers the opportunities for supporting further ePortfolio development through communities of practice, so will also be helpful in informing the interpretation of the recommendations into possible future strategies.
3. **Research Methodologies**

3.1 **Overview**

A variety of research methodologies was used to investigate the current picture of ePortfolio practice in Australian universities and to capture data about the scope and relative diffusion of ePortfolios across the higher education sector. Initially, a literature review and preliminary environmental scan were undertaken to gain an overall understanding of the nature and practice of ePortfolios in education, both nationally and internationally. The topics and issues presented in the literature are discussed thematically in the individual chapters in the report. The research activities subsequently encompassed a national audit of higher education institutions, a series of regional focus groups and semi-structured interviews, as well as surveys of, and interviews with, student users of ePortfolios. A national symposium was hosted by the research team to facilitate discussion on and engagement with ePortfolios in research and in practice.

The national audit, focus groups and semi-structured interviews were undertaken between October and December 2007; the Australian ePortfolio Symposium was held in early February 2008, enabling many of the research subjects to engage further with the topic at the forum. Delegates attending the symposium were able to further progress the research activities, for example, through involving their students in the survey work undertaken during Semester 1, 2008. The data collection activities were completed in early July 2008. The research team was sensitive to the fact that there are diverse stakeholders involved in ePortfolio activities within and across institutions. The data collection activities were consequently designed to capture the diverse perspectives and understandings of the different stakeholder groups, that is, learners, academics, learning and teaching support, academic managers, employers and policy makers. Strategies were therefore developed to extend the reach as widely as possible within the given timeframe. In this chapter, the various methodologies are discussed, set against the theoretical frameworks that guided the research approaches used in the project. The research instruments are available in the supporting documentation on the AeP website (www.eportfoliopractice.qut.edu.au).

3.2 **Research objectives**

The research brief prepared by the ALTC (2007), presented six topics that should be studied, which represented the research goals for the project:

<table>
<thead>
<tr>
<th>Goal 1:</th>
<th>To provide an overview and analysis of the national and international context related to the development of portfolios, particularly ePortfolios, in tertiary education and schools.</th>
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<tr>
<td>Goal 2:</td>
<td>To document the types of portfolios, particularly ePortfolios, used in Australian higher education including the different approaches, purposes, audiences and infrastructure.</td>
</tr>
<tr>
<td>Goal 3:</td>
<td>To identify any significant issues related to the approaches being developed in Australian education and the likely impact on what is happening in Australian higher education.</td>
</tr>
<tr>
<td>Goal 4:</td>
<td>To examine the potential relationship with the National Diploma Supplement work being conducted by a consortium of universities led by the University of New England and the University of Melbourne.</td>
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<tr>
<td>Goal 5:</td>
<td>To recommend ways to share excellent practice in the implementation and use of ePortfolios.</td>
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<tr>
<td>Goal 6:</td>
<td>To identify areas in which further development could be supported and provide advice on how this might be achieved.</td>
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</table>
Grounded theory provides the social science research perspective that underpins the research methods used in the project:

*Grounded theory research begins by focusing on an area of study and gathers data from a variety of sources, including interviews and field observations. Once gathered, the data are analysed using coding and theoretical sampling procedures. When this is done, theories are generated, with the help of interpretive procedures, before being finally written up and presented.*

(Haig, 1995)

Grounded theory is an inductive approach demanding that themes and concepts identified through the research are grounded in the experience of the respondents/participants. Accordingly, the researchers avoided approaching the data collection activities with any ‘a priori hypotheses’ (Glaser & Strauss, 1967) but sought to acknowledge the emergent nature of ePortfolio use in Australia with the associated need to discover the authentic picture of current engagement with ePortfolios in the higher education sector. It was important to avoid any expectancy effect (Colman, 2006) resulting from prior engagement with either the international ePortfolio environment or the scan of international ePortfolio engagement.

### 3.3 Ethical considerations

The Australian ePortfolio Project research activities were approved by the Office of Research, Research Ethics Unit, Queensland University of Technology (QUT). The activities nominated in the initial submission included the national audit and the focus group activities. As the project progressed, however, it became clear that additional data collection activities would positively contribute to the knowledge and understanding of ePortfolio engagement in Australia. As a result, extended ethics clearance was sought to include semi-structured telephone interviews and online student surveys. The full ethical clearance granted to the project covers all data collection activities both at QUT and across the diverse locations in Australia.

All research participants agreed to take part in the data collection activities on a voluntary basis. Participants were informed that the data collected would be treated confidentially, with anonymity fully assured. They were aware that, at any stage of the activities, they could withdraw as a participant without any negative impact on themselves personally or on any institution they were associated with. Research participants were informed that the full report would be freely available from the project website upon conclusion of the project.

The focus groups and semi-structured interviews were all audio recorded and subsequently transcribed for analysis. During the project, the tapes were stored securely in the project team’s offices. Upon completion of the project, all tapes will be destroyed. All identifying characteristics were removed from the data collected from the surveys, interviews and focus groups. Special ethics clearance was sought and granted for the project case studies, which were identifiable, with the written permission for use to be given by the subject of each case study.

### 3.4 National audit of ePortfolio practice in Australian higher education

The focus of the national audit of Australian universities was to meet the requirements of the second research goal: *to document the types of ePortfolios used in Australian higher education, including the different approaches, purposes, audiences and infrastructure.* Some of the qualitative data collected also contributed to the fulfilment of the third goal: *to identify significant issues related to ePortfolio use.* The audit therefore represented a major component of the research data collection process in the project. The survey made it possible to build on and augment the preliminary environmental scan of ePortfolio activity and to examine in more depth the extent of ePortfolio engagement in the higher education sector. Specifically, the audit sought to:

- Collect data to identify and map existing and emerging ePortfolio practice in the higher education sector in Australia
- Document the various approaches to ePortfolio use in the Australian universities
Contribute to the development of appropriate frameworks to measure the level of maturity in ePortfolio practice.

The project was formally introduced to the Vice-Chancellors of each of the 39 Australian universities with a letter from the QUT Deputy Vice-Chancellor (Academic), Professor David Gardiner. The correspondence with the Vice-Chancellors offered the research team an initial admission into the individual universities in order to determine which areas of the institution, and potentially which staff, were utilising ePortfolios. The letter of introduction invited institutional participation in the national audit of ePortfolio practice. It was accompanied by a brochure on the project to provide the context for the study, as well as an invitation to the Australian ePortfolio Symposium scheduled for February 2008.

The letter of introduction further requested all universities to provide the names and contact details of all relevant staff interested in participating in the national audit. In addition, the research team located the contact details of possible survey contacts from Australian university websites, for example, Deputy Vice-Chancellors with academic or learning and teaching responsibilities, deans of faculties, assistant deans (teaching and learning), and directors of central services such as information technology services, learning support, eLearning or careers and employment.

Given the very real time constraints for the project, an online (rather than paper-based) survey was considered the most efficient data collection activity. The benefits of online data collection include faster response times, cost effectiveness and the ability to reach a wide geographical area, all of which were important factors for the national project. Duetskens, de Jong, de Ruyter and Wetzels (2006) suggest that online surveys have been valued by those individuals with busy schedules who appreciate the convenience of the online environment. Van Salem and Jankowski (2006) add that online surveys allow for the common characteristics of the sample group — in this case their email connectivity — to be utilised to best advantage. The project team did, however, acknowledge the fact that online research activities make it difficult to determine overall survey response rates, especially given the challenge of needing to identify and reach appropriate respondents within complex organisations in a short space of time.

Principally, the Tailored Design Method (TDM) was used in the development of the survey instruments. Dillman’s development of this method draws upon Social Exchange Theory and has been noted as producing a higher response rate (Dillman, 2000). Critical elements within Social Exchange Theory relate to rewards, costs and trust, whereby the respondents will reply or respond to the survey if they trust the source and believe that the reward will outweigh any direct costs to them. The project team tried to reduce the perceived costs in regards to time and effort by making the survey short and easily accessed by staff working in an online environment.

Following the Tailored Design Method, the survey allowed for multiple contacts with potential participants during the survey period, whereby respondents were contacted via email with regular notification of the final date for survey submissions. The TDM also requires the surveys or questionnaires to be user-friendly (for example, available online) and that they relay the importance and usefulness of the survey (for example, that this was part of a national research project commissioned by the Australian Learning and Teaching Council). As it was anticipated that members of the research team might wish to ask supplementary questions as a follow-up to the survey questions, respondents were requested to identify themselves and provide a contact email address.

Despite the benefits of the online approach, the research team was nevertheless challenged by the difficulties of determining the relationship between the number of individuals who were ‘targeted’ and the actual response rate. The sampling activities meant that respondents were able to forward on their survey link to others they understood to be involved in ePortfolio practice, and therefore it was not possible to determine, precisely, either the response rates or the sectors represented.

Given the diverse range of stakeholders, it was agreed that different survey instruments should be developed in order to accommodate the different contexts and to capture the range of perspectives that may be characteristic of the diverse groups. Three surveys were therefore developed to target the distinct areas of the higher education environment, with respondents asked to self-identify to determine the most relevant instrument to complete, using the following definitions:
• Learning and teaching survey — academic, academic support and general teaching staff, assistant deans, learning and teaching development and those generally involved with teaching design and development and/or supporting students in recognition of learning.

• Management survey — involved in governance, policy, resource development, department managers, administration staff, assistant directors and careers and employment officers.

• Human resources survey — involved in the professional development of university staff (professional and/or academic).

There was an initial presumption that the use of ePortfolios within individual institutions would potentially be very fragmentary rather than cohesive, with the result that various people at the same university might operate not only in different contexts but also have disparate understandings about ePortfolio usage. This meant, for example, that while one question asked about the breadth of utilisation of ePortfolios in the respondent's own context, it was quite feasible that respondents from the same institution would provide quite distinctive answers.

The online questionnaires were developed using SurveyMonkey (www.surveymonkey.com), a commercial tool that allows for a variety of question and response formats, for example, open text, multi-choice selection, Likert scale ratings and enabled drop-down menu selections. SurveyMonkey was selected because of its ease of use and qualifying features (such as the formats in which data can be downloaded), accessibility and cost. Each of the three surveys had a generic component that included a project information page, statement of consent, guidelines for completing the survey, respondent information and an area to nominate colleagues or other people known to the respondent who might also wish to be involved in the survey.

Following piloting by the project partners, the surveys were released in early November 2007. Emails were distributed to senior academic managers, human resource managers and careers and employment managers. The recipients of the emails were encouraged to distribute the details of the surveys further to any colleagues who may have an awareness of, or interest in, ePortfolios. Invitations to participate were also distributed to personnel who had been identified as authors or researchers during the process of reviewing the literature, or as being involved in ePortfolio projects during the environmental scan activities. Links to the surveys were also added to the AeP website so that they could also be located independently by people interested in ePortfolios.

The questions about ePortfolio use posed in the survey were deliberately open and exploratory as the researchers believed it was important to discover the respondents’ own view of the ePortfolio world through open-ended questions, rather than potentially ‘leading’ the respondents by offering them the chance to simply ‘tick the box’ to allocate an answer. The overall nature of the questions was intended to collect the following information about ePortfolio engagement in Australian universities:

• the scope of institutional use — faculty wide, institution wide, program or subject based
• the scope of student and/or staff use
• assessment and evaluation activities
• guidance and support for ePortfolio users
• the technological nature of the ePortfolio tools
• implementation factors, including both drivers for and impediments to implementation
• policy and strategic direction
• the overall impact on teaching and learning.

Copies of each survey — Learning and teaching survey, Human resources survey and Management survey — will be made available on the Australian ePortfolio Project website.

The survey resulted in a large volume of rich data, which was examined and interpreted by the research team using QlikView data analysis software (www.qliktech.com) and the textual analysis program Leximancer (www.leximancer.com). The findings from the national audit are discussed in detail in Chapter 4.
3.5 Focus groups

Focus group discussion sessions were planned for a number of locations across Australia. This aspect of the research sought to support the fulfilment of the third goal of the research project: to identify any significant issues related to the approaches being developed in Australian education and the likely impact on what is happening in Australian higher education. The principal purpose of the focus groups, therefore, was to engage with sectors beyond the higher education sector itself and to document the issues associated with ePortfolio practice in Australia. Invitations to attend the focus groups were sent to representatives of primary, secondary and higher education, the vocational education and training (VET) sector, representatives from business, industry and the professions, as well as representatives from the community sector. Project team members were asked to identify individuals and organisational representatives who might be interested in taking part. This purposeful selection of participants was considered important to ensure meaningful discussion about current ePortfolio engagement in Australia.

The focus group process also proved to be very valuable as an opportunity to disseminate information about the project beyond the immediate tertiary education sector. Engagement with representatives from sectors other than higher education helped inform the project more broadly about the level of awareness of and the range of experiences with ePortfolios in the different contexts. It was also possible to discuss what expectations these other areas might have for the higher education sector itself in terms of ePortfolio engagement. Kreuger (1994, p. 87e) stresses the value of focus groups as a means ‘to understand … to determine the range … and to provide insights’ into key issues, in this case into the multifarious ePortfolio issues in Australia. The nomination of possible focus group representatives by the project partners is noted by Kreuger as an effective strategy for identifying participants (1994, p. 84).

Focus groups were hosted by the four institutional research partners, in Brisbane, Melbourne, Wollongong and Armidale, with additional meetings held in Adelaide, Perth and Sydney. The focus group activities took place between October 2007 and February 2008, with each one lasting for up to two hours. It was recognised that Kreuger (1994) recommends a focus group size between six and nine participants, as the opportunity for equal participation may be reduced in groups of more than twelve.

The potential for ‘interviewer effects’ (Breen, 2006, p. 473) was acknowledged, with steps taken to minimise any risk of bias. Drawing on the literature and the experience of project team members, a series of stimulus questions was designed to elicit responses from participants, regardless of the level of their familiarity with the ePortfolio concept. The stimulus questions were used to guide, but not limit, the discussions. Time constraints within the project meant that the stimulus questions were not subjected to a full pilot process. To address this shortcoming, two strategies, also recommended by Breen (2006), were used to minimise any possible negative factors: firstly the stimulus questions were sent to participants prior to the focus group sessions so that they had time to consider them, and secondly the extended time for the focus group (up to two hours) allowed time for participants to seek clarification about the concepts arising from the questions.

The stimulus questions were used to prompt discussion about ePortfolio practice, drawing once again upon the research approach of Grounded Theory. Written agreement to participate in the research project was collected from all attendees at the beginning of the focus group sessions. The documentation distributed to focus group participants is available on the Australian ePortfolio Project website.

The questions focused on the following issues:
• What do you think an ePortfolio is/can be used for/comprises?
• What is the purpose of an ePortfolio in your sector?
• What are you doing with ePortfolio at the moment?
• What would you like to be doing in the future? Why?
• What support/factors would you like to have in order to progress your level of engagement?
• What would you like the higher education sector to be doing in terms of ePortfolio use/support?

One additional question was posed if the moderators felt that greater specificity was required:
• Which one/two of these factors is/are the most important for you at this stage?
It was hoped that the qualitative data from the focus groups would amplify the audit data collected in the surveys, to present a richer picture about the level of involvement in ePortfolio activity, to gauge current perceptions around ePortfolio practice, to identify critical issues and also to determine other sectors beyond higher education might like to see as possible outcomes of ePortfolio activities in universities.

3.6 Semi-structured interviews

To build on the foundation of the focus group activities and to further enrich the data collection process, the research team undertook a series of targeted semi-structured telephone interviews. Initially it was hoped to use the ‘snowball sample’ approach (Kreuger, 1994, p. 84) to elicit nominations for appropriate participants, primarily from those who had attended the focus groups. An initial email was distributed to forty-seven potential interview subjects to establish whether they wished to participate. However, as this initiative resulted in a disappointingly low response rate members of the research project intervened to specifically contact a number of people who were felt to have both the integrity and the depth of knowledge about different aspects of ePortfolio practice to provide valuable insights and comments.

A total of seven people agreed to take part in the semi-structured telephone interviews, representing employers and professions, ICT policy and vocational education. Some of the interviewees had attended the focus groups.

The semi-structured interviews were conducted between January and March 2008. The semi-structured interview questions were the same as the stimulus questions used in the focus groups, with the format encouraging open responses. Interviewees received information about the project, the purpose of the interviews and the text of the interview questions prior to the interview taking place. There was no predetermined length for the interviews and participants were free to continue talking for as long as they wished. On average, interviews lasted approximately fifteen to twenty minutes. The telephone interviews were all recorded; at the beginning of the interview the purpose was restated and participants were asked to give, and in all cases gave, verbal consent to record the interview.

Tape-based analysis (Kreuger, 1994, p. 143) was used to analyse the interview data. Tape-based analysis acknowledges the summarised nature of the transcripts with analysts referring to the tape to clarify points if required. The tight timelines for the project meant that this approach was preferred to the lengthier option of full transcript-based analysis. Two analysts were used to identify the key words and phrases and to aggregate these into themes. A brief summary was prepared from each interview and the separate interview summaries were then collated to present an overall view of all the themes emerging from the interviews.

3.7 Student surveys

The research team was cognisant of the central role of students in the use of ePortfolios in higher education. The literature review and environmental scan, along with the preliminary findings from the audit, revealed that — to date — there has been a lack of information about the student experience per se, although internationally there had been some published activity of ePortfolio student evaluations, particularly within the UK and in the Netherlands. To capture the student voice, the AeP project developed two levels of data collection that focused on the student experience: the new student likely to be encountering an ePortfolio for the first time, and the ‘mature’ student who had been engaged with ePortfolio practice for some considerable time. The survey of ‘new’ students was two pronged: it involved a pre-course questionnaire at the beginning of the semester to capture their expectations about using an ePortfolio and a post-course questionnaire to capture their experience of the ePortfolio process during the semester. The ‘mature’ user study also comprised two parts: a survey and a semi-structured interview.
3.7.1 Pre-course and post-course surveys

SurveyMonkey was again used to develop two separate online surveys to capture both the initial expectations of students about how to use ePortfolios in their university course and their subsequent experiences with the process. The first survey was to be completed early in the semester prior to a student’s use of an ePortfolio (pre-course survey); the second, follow-up survey was to be completed close to the end of the semester after they had engaged in ePortfolio work (post-course survey). The pre-course expectation survey was based on a pre-course survey piloted in 2007 with first-year paramedic students at QUT about to utilise ePortfolios in their coursework. Project members also reviewed a pre- and post-ePortfolio evaluation survey undertaken by dental students at Newcastle University in the UK (Teasdale et al., 2008).

It was anticipated that each survey would take no more than five minutes for the student to complete and it could be accessed online via a direct link, preferably during class time. The proposal was for the teacher/tutor introducing students to the ePortfolio activity to give them the link as an initial step, before they were introduced to ePortfolio or started using it. Each student was required to create a six-character code, using a combination of their initials and date of birth to render it unique to them, yet reproducible, so that the pre-course survey responses could be correctly correlated with the post-course survey responses. Later in the semester the teacher/tutor would release the link to the post-course survey for the students to complete.

The Australian ePortfolio Symposium in early February 2008 was used as a forum to identify potential targets for the student surveys. During the symposium delegates were invited to submit their contact details if they had a student cohort that was undertaking ePortfolio practice for the first time in the first semester of 2008. A total of six tertiary institutions responded to the invitation and the online pre-course survey was made available to these university representatives from Week 1 of Semester 1, 2008. The post-course survey was made available to the same six institutions for release before the end of the first semester; the release dates for the questionnaire were staggered to fit in with the timelines for the academic programs of each cohort.

Online surveys were selected for in-class completion because internet access was easily available to this population. In line with the audit and focus group activities, the questions enabled the project team to gain insights into student expectations prior to using ePortfolios, and then ascertain their experiences once they had engaged in ePortfolio practice. However, unlike the audit questionnaire, there was only one open-ended question and the rest were selective questions. This pre-determination of the response options not only allowed for prompt and efficient completion of the questionnaires, but also reduced the likelihood of confusion or concern on the part of students who were likely to be unfamiliar with ePortfolios. For example, questions around definitions of ePortfolios were presubscribed and students were asked to select the one they felt was appropriate. This was different to the approach taken in the audit surveys, where respondents were asked to give their own definition of ePortfolios. Copies of each questionnaire and both surveys will be made available via the AeP project website.

3.7.2 ‘Mature’ users of ePortfolios

As part of the research for the AeP, the research team sought to collect data about students who had used an ePortfolio at an Australian university for some period of time, so that they could be considered ‘mature’ users of an ePortfolio. There were two parts to the ‘mature’ user study:

Part 1:  A short survey about the student (or previous student or graduate) and the context of their use of an ePortfolio

Part 2:  A semi-structured interview with the student (or previous student or graduate) conducted either by phone or face to face.

The questions and interviews had an exploratory focus and enabled the project to capture further valuable data about current ePortfolio practice in Australian universities from one specific cohort of stakeholders. The initial survey questions were identical to the demographic questions used in the pre- and post-course online student surveys; the remaining questions echoed the ‘ePortfolio use’ questions posed in the learning and teaching audit.
As an important first step, the research team needed to identify target respondents who could be regarded as ‘mature’ users. Drawing on data collected from the national audit in November 2007, the team identified those respondents who had indicated that their institutions had used ePortfolios extensively or over a significant period of time. Representatives from seven institutions that indicated extensive engagement in ePortfolios practice were contacted and invited to nominate mature users who might wish to be involved in the data collection activities. Initially, 16 potential respondents from various institutions around Australia were contacted.

A total of nine students (former students or graduates) representing two institutions were ultimately surveyed and interviewed about their use of an ePortfolio. While this group of respondents was more limited than originally hoped, this component of the project nevertheless offered the opportunity to provide initial information not only about students’ actual experiences using an ePortfolio, but also the perceived impact on their learning. There was further potential to consider the role of ePortfolios in the transition into employment as they applied for jobs.

3.8 Case studies

At the beginning of the project, the research team agreed that a series of case studies would provide valuable depth to some of the perspectives identified in the national audit. However, as the project progressed, the complexity of the task was acknowledged. To effectively complete the case study work, further consultation with ePortfolio practitioners across the higher education sector would be required. Consequently, brief case studies are presented for the four project partners, to illustrate a number of different ePortfolio initiatives within Australian universities. There is scope to extend the case study work in the future.

3.9 Employer engagement

The role of ePortfolios for transition into and across the employment sector and for initial and ongoing professional accreditation is acknowledged in the literature. The Australian ePortfolio Project has recognised the previous survey work undertaken by Rhonda Leece at the University of New England in 2005. Leece gathered employer feedback on ePortfolio use in the area of recruitment through a survey of members of the Australian Association of Graduate Employers. The outcomes of her survey indicated that while the process of compiling the ePortfolio was considered advantageous for the job seekers, there was no evidence to suggest that an electronic portfolio surpassed the traditional format of job applications. The final report recommended, however, that the employers’ motivation to accept ePortfolio practice is one that should be cultivated (Leece, 2005).

The research team sought to ensure that this stakeholder group was included as a key cohort in the research activities. However, despite significant efforts on the part of the project team to engage with employers, recruiters and professional bodies, it was found that the short timeframe for the data collection work did not marry well with the annual pattern of graduate recruitment, coinciding with their peak period of activity. The contribution of industry representatives and employer groups was therefore limited to their involvement in the focus groups and semi-structured interviews, which although providing highly valuable perspectives, did not permit the project to include a large-scale review of employer engagement with ePortfolio practice.
3.10 Maturity models

An outcome of the literature review and consultation process was an awareness of ‘maturity models’ as a way for organisations to measure their preparedness to adopted ePortfolios both at a technology and a process level. Maturity models gained popularity in the 1980s as a way to measure the degree of maturity an organisation may demonstrate in its approach to software development (Humphreys, 1989) in order to further support the development of ICT processes, products and services. In Australasia, the e-Learning maturity model (eMM) is a popular way to look at eLearning capability and sustainability (Marshall & Mitchell, 2002). Within the context of ePortfolio research and practice, two ePortfolio maturity models have been developed: one primarily aimed at the British schools sector, designed by the Learning Sciences Research Institute at the University of Nottingham and used by Becta (British Educational Communications and Technology Agency, 2007), and a second model that sought to benchmark ePortfolio implementation in the Dutch higher education sector (SURF NL, 2007).

The Becta maturity model was designed to support the school sector in raising awareness of the factors affecting implementation and sustainability of ePortfolio practice within a local environment. The model looks at ePortfolio practice from the four main perspectives the institution, teacher, learner and system, each supported by a set of sub-factors or promoting questions. This is presented in a matrix format with a series of descriptors outlining a sliding scale of maturity. An organisation can then judge its level of preparedness by comparing their situation against the matrix (Becta, 2007).

Drawing on the Becta model, the Netherlands (NL) Portfolio group of SURF developed an adapted model, focusing on specific phases and priorities of ePortfolio implementation. This model has a five-point scale of maturity that encompasses: local use; process redesign; network redesign and embedding (in two levels: basic and advanced); and redefinition and innovative use. This model was then used to benchmark the state of higher education ePortfolio practice in the Netherlands and to encourage continuous improvement (SURF NL, 2007).

3.11 Australian ePortfolio Symposium

As part of the project plan, the research team proposed holding a forum to promote and extend the research activities. The Australian ePortfolio Symposium was a two-day event hosted by QUT in Brisbane to achieve this goal, as well as to facilitate the sharing of information and experiences, both Australian and international, across the higher education sector. The symposium was held from 7 to 8 February 2008, with two satellite events: a policy meeting attended by key partners and stakeholders, and a showcase of a range of ePortfolio software tools. The symposium was promoted through project partners, through the research activities such as the national audit and the focus groups, and from the project website. The event attracted a number of international speakers and the program included facilitated panel presentations and group workshops.

3.12 Summary

Within a relatively short time frame the research team used a variety of exploratory research approaches aimed at collecting a wide spectrum of data to describe and interpret the extent of ePortfolio initiatives in Australian universities and capture the key issues impacting on policy and practice in the higher education sector. Due to the short timeframe for the project, the research strategies were nimble and dynamic, yet successfully reached a broad spectrum of stakeholders in order to provide what is hoped is a balanced picture of ePortfolio practice.

The key findings from the research are presented in Chapter 6. In order to provide further contextualisation, however, it is valuable to first present the national and international contexts that frame ePortfolio activity (discussed in Chapter 4), as well as to outline the significant issues that relate to ePortfolio initiatives in Australian education (as presented in Chapter 5).
4. NATIONAL AND INTERNATIONAL CONTEXTS FOR EPORTFOLIO PRACTICE IN HIGHER EDUCATION

Goal 1: To provide an overview and analysis of national and international context related to the development of portfolios, particularly ePortfolios, in tertiary education and in schools

4.1 Overview

The initial environmental scan of ePortfolio activity provided a valuable overview of ePortfolio activity in education, employment and the community, which required a deeper examination of national and international policy and practice. Investigations on the part of the project team sought to contextualise the scope of ePortfolio use. An examination of the present Australian policy context was particularly timely, given that the project itself coincided with a new Labor Federal government being elected in November 2007 and the Australia 2020 Summit being held in April 2008. Emergent political themes include employability skills, participation in education and employment, national productivity, innovation and lifelong learning.

From the perspective of internationalisation of education, the Australian ePortfolio Project also dovetails with the National Diploma Supplement project funded by DEST, with the two project teams intersecting on issues of mutual concern. It has been found that the Australian policy environment differs significantly from the international policy environments, most specifically in Europe and in the United Kingdom. The key factors leading to sector-wide engagement with ePortfolios in these jurisdictions are reviewed, with reference also made to policy-driven ePortfolio activity in Canada and New Zealand. In a global education market, questions of technical standards and interoperability are also critical, in order to meet the need to support learner mobility within and between learning and training institutions and the workplace.

Beyond the policy contexts, there are also a number of practice contexts that are analysed. Some professions, such as teaching and nursing, have a strong tradition of portfolio activity and these are seen to be leading the way for current ePortfolio initiatives, nationally and internationally. Beyond university students, there is also an emergent interest in ePortfolios for academic staff, especially within the contexts of academic probation, academic promotion and teaching excellence. Attention is also paid to a number of initiatives in the K-12 education sector and the vocational education and training (VET sector). The interplay of higher education with the schools and VET sectors further highlights some of the policy issues associated with technical standards and interoperability.

4.2 Policy contexts

4.2.1 Australian policy context

In mid April 2008, the Australian Federal Government hosted the 2020 Summit. Education was identified as a key theme in the national ‘productivity agenda’: one of the ways in which Australia can become more productive is by equipping Australians ‘with the capacity to contribute and innovate through an education and training system that leads the world in excellence and inclusion’ (Australian Government, 2008, p. 10). The need to develop strong connections through ‘collaborations in education, business and innovation’ (Australian Government, 2008, p. 10) has been recognised as an important aspect of the process. The report goes further to establish the importance of ‘focusing on the connections between quality teaching and productivity’ (Australian Government, 2008, p. 11).

The Federal Government seeks to widen access to higher education in order to support increased participation in the labour market. In the Australia 2020 report, it has specifically indicated a desire
to build ‘life learning centres’ for working age career needs and take full part in the digital economy (Australian Government, 2008, p. 12). The need for ongoing skills development is also part of addressing the critical problem of a skills shortage and sees further manifestations in other training programs such as the Productivity Places Program (DEEWR, 2008b).

In recent years, there has been a growing interest in ‘employability skills’. While Australia currently has no government policy to mandate the formal recording or reporting of employability skills, strategies have been in place in the VET sector to incorporate employability skills into the National Training Packages, with consideration given to the options for assessing and reporting on the individual’s acquisition of skills. In 2006, DEST commissioned the Allen Consulting Group to examine the issues associated with recording and reporting of employability skills with the goal of developing a better understanding on the part of learners, trainers and employers (Allen Consulting Group, 2006). One of the key recommendations in the report to DEST was that learners should be encouraged to develop their own portfolios of employability skills:

Students would collect and organise evidence of the employability skills that they have developed through VET, other study, or in other areas of life. Learners could continue to update their portfolio throughout their working lives, as they continue to develop different facets of employability skills in new contexts.

(Allen Consulting Group, 2006, p. 7)

Learners would consequently be better informed about the range of employability skills needed for specific jobs, as well as about where and how to develop the skills though work and study. It is argued that they would, as a result, be better prepared for job interviews. Transition into and through training courses in single or multiple institutions, with the ability to support the recognition of prior learning (RPL) may be managed more easily (education.au, 2008a). It has been noted that some Australian employers favour an ePortfolio approach as it gives a ‘more informed picture of the job candidate’ than is possible through a traditional resume (Department of Science, Education and Training (DEST), 2007, p. 42). Nevertheless, employers tend to have their own perspective on ePortfolio, which means that the demands of the employer are not always commensurate with the educational goals of individual development and empowerment (Ward, 2008).

In 2004 DEST contracted education.au to develop and trial a national ePortfolio tool that could be used for the recognition and recording of employability skills (Curyer, Leeson, Mason & Williams, 2007). In 2005 a beta-release called My e-Portfolio was developed for MyFuture (2008), the Federal government’s career information service. Trials were conducted using a small sample of secondary schools, institutes of Technical and Further Education (TAFE) and tertiary institutions. This ePortfolio project remains a work in progress and is not publicly available. However, the report on developing ePortfolios for the VET sector (Curyer et al., 2007) makes reference to the project as an opportunity for further national development.

Similar themes have emerged in the interface between the higher education and employment sectors. Industry groups and professional bodies have advocated the need for universities to offer courses that more adequately meet current industry and market place needs, especially within the area of graduate attributes or generic capabilities. In 2000, the Department of Education, Training and Youth Affairs (DETYA) commissioned a study of employers’ satisfaction with university graduates. Findings revealed that employers believed that as many as 75% of Australian university graduates were not in fact suited to the jobs they applied for (AC Nielsen Research Services, 2000). Employers indicated that the 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.

In 2007, the Business, Industry and Higher Education Collaboration Council (BIHECC) was asked to undertake research into the development, teaching, assessment and reporting of graduate employability skills. It was acknowledged (Precision Consultancy, 2007) that employability skills were developed by university students through:

- courses, that is, through curriculum and course design
- work placements such as fieldwork, internships, cooperative education and sandwich programs
- exposure to professional settings
- advice and guidance provided by university careers services
• further opportunities offered by part-time employment, volunteer work and community participation.

It was felt that academic staff were well placed to meaningfully assess employability skills, but the issue of reporting was more complex. Reference is directly made to the potential for ePortfolios in this area:

E-portfolios were seen by businesses and universities to be a practical method for graduates to explain and provide examples of their employability skills. E-portfolios need to be managed by the students themselves. Some universities offer web-based portfolios to students, but to be effective students need guidance from careers services and/or academic staff to complete these.

(Precision Consultancy, 2007, p. 4)

Making reference to the DEST-funded National Diploma Supplement project to develop a single agreed template to document the achievements of Australian graduates, the researchers indicated that, while most of the information presented in a diploma supplement would be ‘the testamur associated with a degree or diploma’, it was hoped there would be a section of the document ‘where details of employability skills associated with the given qualification could be readily and meaningfully included’ (Precision Consultancy, 2007, p. 4). The Graduate Employability Skills report was released in August 2007, coinciding with funding being awarded by the Australian Learning and Teaching Council (ALTC) to the Australian ePortfolio Project team, which included members of the National Diploma Supplement project team. Chapter 7 of the current report presents a discussion on the diploma supplement project, which has resulted in recommendations for an Australian Higher Education Graduation Statement (AHEGS). The chapter includes an overview of the relationship between the proposed AHEGS and ePortfolios (see Section 7.5).

The goals of lifelong and lifewide learning are gaining political and pedagogical significance. It may be argued that the political agenda has reached a position where a mature ePortfolio environment could play a significant role in bridging the education and employment sectors to attain a useful and potentially highly rewarding synergy. The ALTC has demonstrated its support for investigating the ePortfolio area through funding for the Australian ePortfolio Project. The ALTC therefore has the opportunity, through the current project, to raise the awareness of the potential of ePortfolios in education and employment and to develop linkages across the sectors.

Interestingly, links between policy and practice can be identified: current priority areas for government training include nursing and education, two areas where ePortfolio development has been strong and highly innovative, both in Australia and overseas (Broadbent, 2005; Dennis, Hardy, & White, 2006; Finger, McGlasson, & Finger, 2008). Teacher education is regarded as a traditional portfolio-based area, where evidence of the attainment of professional standards is required for registration as a teacher. Medicine and nursing represent other discipline-specific instances where portfolio and ePortfolio use provides evidence of competency and standards attainment. There have also been ePortfolio initiatives arising in the careers and employment sections of higher education institutions as a response to the call from Australian employers for job-ready graduates. Increasingly, ePortfolio practices are being introduced to areas such as engineering and science, where portfolios are less common, but there is a growing need to give students the opportunity to develop awareness of their employability skills, which in turn enables them to have a competitive edge when job seeking (McAllister, Hallam, & Harper, 2008).

4.2.2 International policy contexts

The policy environment in Australia, however, differs markedly from that in Europe and the United Kingdom. The policy drivers in the northern hemisphere are reviewed to help develop an understanding of the significance of ePortfolios in education and employment. However, it is interesting to note that, while widespread ePortfolio practice is reported in both universities and community colleges in the USA, there is scant evidence of specific government policy drivers contributing to ePortfolio use, beyond one example of the reform of professional teaching standards. Much of the impetus to use ePortfolios in education has evolved from an interest in student learning processes, for example, student centred learning; student self-reflection; critical thinking skills; technology skills; and lifelong learning habits. Nevertheless, these foci may also lead to an interest on the part of academic managers: ‘Provosts and other educational leaders often connect ePortfolios to the fulfillment of institutional mission and to the fulfillment of educational objectives … As an extension of using ePortfolios for student assessment,
ePortfolios can assist in program improvement and with accreditation’ (Lee, 2007, p. 12). The Council for Aid to Education (2008) coordinates the Collegiate Learning Assessment (CLA) process, which seeks to improve student learning outcomes in the areas of critical thinking, analytical reasoning, written communication and problem solving. CLA focuses on the institution as the point of analysis, rather than the students per se, but a number of institutions are utilising a portfolio approach to collating student work, which is aggregated for the purposes of institutional assessment. Overall, therefore, ePortfolios may be of interest within the academic policy context, rather than within the government policy context.

4.2.2.1 Europe

In Europe, the development of eLearning technologies and strategies has led to an international campaign: Objective 2010 — ePortfolio for All (EIfEL, 2008b). The vision emerged at the Council of the European Union (EU) meeting held in Lisbon in March 2000, where it was agreed that Europe should strive to achieve greater sustainability and economic benefit. The strategic goal for 2010 was formulated, for Europe ‘to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion’ (European Commission, 2008). The strategy highlighted the importance of lifelong learning as the process to support the achievement of ‘the economic, employment and social goals for Europe’ (Leney, 2004, p. 8).

The development of ePortfolios as support to the concept of lifelong learning had been forefronted in Europe in 2001 by the establishment of the European Institute for E-Learning (EIfEL). Lifelong learning is defined as ‘multi episodic’, with individuals moving beyond a specific period of formal education, to participate in multiple, but occasional, periods of education and training throughout their working life; the idea of an ePortfolio, therefore, ‘recognises that learning is continuing and seeks to provide tools to support that learning’ (Atwell, 2007, p. 2). EIfEL states that it aims to ‘make the ePortfolio the tool of choice for 21st century knowledge workers and citizens to valorise individual achievements, support renewed approaches to quality assurance of education and training policies and support lifelong and lifewide learning policies’ (Elearningeuropa.info, 2007).

The European Commission is currently funding a four-year project (2005–2009) known as The European Network for Lifelong Competence Development (TENCompetence). This is a research and technology development project that specifically examines the creation, storage, use and exchange of information and data about knowledge resources, learning activities (and units of learning), competence development programs and networks for lifelong competence development (Sligte & Koper, 2008). The working environment of the 21st century is characterised by the need for flexibility to cope with multiple jobs, multiple roles and multiple functions; workers are required to work in multidisciplinary teams, to frequently take up new roles and to adapt to new situations. Work and learning have become integrated; indeed, ‘learning has become an integral part of our whole life, just like eating, drinking and breathing’ (Sligte & Koper, 2008, p. 5). Through the TENCompetence project it is hoped that an integrated open source infrastructure can be developed that will enable and foster lifelong learning. The ePortfolio process itself recognises learning as a continuing process ‘where individuals are responsible for defining and organizing their own learning’ (Berlanga, Sloep, Brouns, Bitter-Rijpkema, & Koper, 2008, p. 24).

In planning the different learning activities that help learners acquire a competence, the learner can prepare his or her competence development plan (CDP). ePortfolios can promote the articulation and visibility of the individual’s attributes that can be shared with others, for example, peers, teachers, tutors or employers. The ePortfolio enables individuals to develop and present their diverse personal and professional profiles, with the option to choose what information each profile should display (Berlanga et al., 2008).

In a digital world, there is the potential for citizens to present themselves digitally. In Europe, digital identities are being developed through the eHealth, eAdministration and eCitizenship agendas, so that a single individual may potentially have multiple digital identities. An ePortfolio provides the individual with the opportunity to construct his or her own digital identity in this environment. This year, the annual European ePortfolio conference hosted by EIfEL has the title ‘ePortfolio and Digital Identity 2008’. The aim of the conference is to explore ‘how digital technologies, and in particular ePortfolios and digital identity, are transforming individual, organisational and community learning and development’, with a particular focus on the needs of the knowledge economy and society’ (EIfEL, 2008a).
4.2.2.2 United Kingdom

The United Kingdom is actively engaged in promoting and supporting the use of ePortfolios. Activity has arisen in both a ‘bottom up’ manner, from within the education sector and in a ‘top down’ manner, from government policy initiatives. A range of UK government policies can be seen to be supporting the implementation of ePortfolios, including the e-strategy of the Department for Education and Skills (DfES, 2005). Following the first high level priority of improving access to online services, the second priority focuses on providing support to learners, with the requirement that institutions offer personal online learning space with the capacity to support an ePortfolio. The electronic portfolio will make it ‘simpler for learners to build their record of achievement throughout their lifelong learning’ (DfES, 2005, p. 5). The policy context for e-strategy development in the UK is based upon the twin pillars of attainment and inclusion.

Within the higher education context, interest in ePortfolios was stimulated by the recommendation of the National Committee of Inquiry into Higher Education (Dearing, 1997) which recommended that Institutions of Higher Education, over the medium term, develop a ‘Progress File’. The file should consist of two elements:

- A transcript recording student achievement that should follow a common format devised by institutions collectively through their representative bodies.
- A means by which students can monitor, build and reflect upon their personal development (Personal Development Planning/Recording).

Personal Development Planning (PDP) was subsequently defined further as ‘a structured and supported process’ (Quality Assurance Agency in Higher Education, 2001), used to reflect on learning and/or performance and also for career or other planning — a process that is congruent with, and increasingly supported by, practice within electronic environments, specifically via the use of ‘e-pdp’ and/or ‘e-portfolio’ software. The policy rationale is that learning should be lifelong and personal. All learners should be able to ‘develop, record, repurpose and transfer a wide range of information about themselves electronically, as they progress through different levels and episodes of learning, training and employment’ (JISC, 2006). Further policy development is anticipated in the UK, specifically in terms of the current interest in a possible Higher Education Achievement Report (HEAR) for all students, as proposed in the Burgess Group Report (Universities UK, 2007) and the developing agenda in respect of workforce development and employer engagement, following the Leitch Review of Skills (Leitch, 2006).

The Joint Information Systems Committee (JISC) was formed in 1993 as a committee of the Higher Education Funding Council to deal with networking and other specialist areas. It released its first strategy in 1996 to consider coordinated electronic information and network services. In 2005 JISC had a key role in supporting a set of national policies and strategies in the higher education (HE) and further education (FE) areas. Among these policies was a number that had specific impact on the UK program of development of ePortfolios. These policies urged mature ePortfolio development not only for the individual user at the student or teacher level, but also at the level of higher education institutions, awarding bodies and, ultimately, other sectors.

One project has explored the potential for a personal portfolio as a tool for every citizen, a goal that has thematic and policy links to the EIFEL manifesto. Career Wales Online (CWO) was developed as a ‘client-led web service which will enable everyone to hold an e-portfolio of achievements, qualifications, experiences’ (Jones, 2004, p. 1). Aimed at addressing the drop-out rate from training and employment and potentially preventing long-term unemployment, young people (16–19 years) are introduced to the ePortfolio tool during the school years with the goal of helping them think about lifelong career planning.
With a focus on career self-management and self-awareness, the platform helps users understand and record their learning and work styles, interests, skills, personal qualities and achievements through the e-portfolio and interactive games.

(European Commission, 2005, p. 15)

CWO (2008) was a finalist in the European eGovernment Awards 2005, as well as being nominated for a number of awards in the areas of education, technology and social innovation.

The Centre for Recording Achievement (CRA) operates as an Associate Centre of the Higher Education Academy (HEA) with a specific focus on supporting higher education institutions and their communities with the implementation of Progress Files, Personal Development Planning and ePortfolios (Centre for Recording Achievement, 2008a). It also works in areas where ePortfolio practice is under development, including with schools and colleges, foundation degrees, work-based learning, postgraduate study, employment and continuing professional development. The CRA has a membership that encompasses major higher education institutions, smaller organisations and individuals, providing a forum for dialogue about policy and practice. The organisation has close links to the JISC, the Quality Assurance Agency (QAA) and, of course, the HEA. The CRA conducted an ePortfolio survey in 2007, on behalf of HEA, which found that 77% of institutional respondents reported that their PDP processes were supported by an electronic tool (Strivens, 2007). It is important to note, however, that in many cases individual practice in universities predated any specific policies (Ward, 2008).

4.2.2.3 The Netherlands

In the Netherlands, government policy issues associated with the ICT infrastructure for higher education resulted in the establishment of the organisation SURF. Dutch universities were challenged to develop and introduce ideas associated with the use of the ICT network that linked the academic and research institutions. Current activities encompass the provision of network services, development and management of protocols for security and authentication, software development and collaboration across the thematic areas of eLearning, scholarly communication, digital rights, identity management and technical standards. SURF and its activities are primarily funded by the academic partners (research intensive and applied science universities) and the government Ministry of Education, Science and Culture and the Ministry of Economic Affairs. NL Portfolio is a special interest group (SIG) within SURF, established in 2004, that aims to ‘combine, share and develop further the knowledge in the field of digital portfolios in higher education’ (SURF NL, 2008). In 2006-2007, the NL Portfolio Expertise Group conducted a research study to examine ePortfolio practice in Dutch higher education, which includes the research universities and the universities of applied science, which tend to offer a more competence-oriented education. NL Portfolio is working with a number of institutions that are ready to embark on scaling up their ePortfolio projects to an institution-wide level. SURF is involved in collaborative projects with international partners such as JISC in the UK.

4.2.2.4 Canada

ePortfolio use has been promoted in Canada since 1997 by the eLearning forum Learning Innovations Forum d’Innovations d’Apprentissage (LIfLa). The intention was to incorporate ePortfolio practice across ‘all areas of education and training’ (Barker, 2004, p. 1). Barker and her research team have worked to establish links between ePortfolio practice and recognition of prior learning (RPL); lifelong learning, education and training and human capital management. LIfLa is closely affiliated with the European eLearning organisation, ElfEL.

In a project funded by Human Resources and Skills Development Canada (HRSDC), LIfLa looked at the application of ePortfolios to map the skills of new immigrants coming to Canada to the available employment opportunities. Canadian employers were struggling with the recognition of training and work experience undertaken outside of the Canadian system (Barker, 2006). The project brought together human resources, education and software specialists and effectively dovetailed with the stated aims of an ‘ePortfolio for every citizen’ and ‘one ePortfolio for Life’ (Barker, 2006, p. 5). LIfLa used this as a springboard to call for a national and integrated approach to ePortfolios for immigration and learning, but the project resulted in no effective outcomes.
Earlier, in 2004, the Ministry of Education in British Columbia mandated the use of the Graduation Portfolio — as either a physical or electronic portfolio — by all Years 10–12 students in the province. It was intended to provide equity of assessment as it would facilitate a broader concept of assessment than just the formal classroom perspective. However, for many reasons, the mandatory ePortfolio graduation requirement was not well supported by teachers, students and parents in British Columbia and it was rescinded late in 2006. Parents, students and teachers reported to the Education Minister that the ePortfolio activities, both compiling them and assessing them, were too complex and too time consuming. They also felt the system had been introduced ‘too hastily’ (Bellett, 2006). Teachers were not given time or additional staffing to become acquainted with the system or the requirements. There were also concerns that the ‘less traditionally motivated’ students who would supposedly benefit from a broader assessment approach were not adequately supported to use the system (Russell, 2006). A lack of assistance for international students was also perceived (Preston, 2006). The BC Teachers Federation reported the ePortfolio placed a ‘barrier to graduation’ for some of the most vulnerable students (Bellett, 2006). The Council of Ministers of Education, Canada (CMEC) report to the OECD in 2007 suggested that although in British Columbia the graduation portfolio has become an optional activity for graduating secondary students, ‘a portfolio culture now permeates BC’s schools, as students are required to collect and reflect on evidence of their unique learning’. The report details many ePortfolio initiatives currently being undertaken in British Columbia (Council of Ministers of Education Canada CMEC, 2007, p. 12).

4.2.2.5 New Zealand

The New Zealand context is one where significant efforts have been made to make effective use of a limited education budget. High costs and a perceived lack of flexibility in platforms such as WebCT and Blackboard has seen policy shift to the development and uptake of economically sustainable technologies, with a specific interest since 2003 in open source software. The New Zealand Government established the eLearning Collaborative Development Fund (eCDF) as an avenue for dedicated eLearning funding for the period 2003–2007. One of the key strategies for the deployment of funds is that ‘Projects should be collaborative across institutions and be designed to have impact on the whole sector’ (Wyles, p. 2).

The New Zealand Tertiary Education Commission’s eLearning Collaboration was contracted in 2006 to develop an ePortfolio application for the New Zealand tertiary sector. The project was a collaborative effort involving Massey University, Auckland University of Technology, The Open Polytechnic of New Zealand and Victoria University of Wellington. The result was Mahara, an open source portfolio application incorporating social networking applications. It is freely available and provides users with the tools to ‘demonstrate their life-long learning, skills and development over time to selected audiences’. Mahara means ‘thinking’ or ‘thought’ in Māori, which conveys the purpose of the project: to create a ‘user-centred life-long learning and development application’ (Mahara, 2006). At the conclusion of the project, the Flexible Learning Network (NZ) has guided the ongoing development of an ePortfolio service, through My Portfolio, which is powered by Mahara. Mahara is attracting attention in European education institutions, not least due to arrangements for access thorough the More Self-Esteem with my ePortfolio (MOSEP) project (2008) (see Section 4.4.2).

4.2.2.6 Scandinavia

EiFEL acknowledges that much of the pioneering work in the area of ePortfolios has been undertaken in Scandinavia. In Norway, the national ICT infrastructure is well established and it has been argued that ambitious government policy has sought to increase the use of ICT, with all households and enterprises to have access to cost-effective broadband services and digital tools to be made available in all elementary and secondary schools (Norwegian Association for Distance and Flexible Education NADE, 2007). The vision for widespread ePortfolio use has been recorded:

"The student develops and produces learning resources as part of her/his learning process. She/he has access to a great range of learning resources and learning objects that might be used to build new products as part of the learning process. The student refines them and brings them to her/his personal portfolio (e-portfolio). The content of her/his portfolio is shared with other students. The content is easily accessible as learning objects or as materials for future studies and for future jobs."

However, it has been noted that current government ICT policy does not mention ePortfolios. While the term ‘ePortfolio’ is less common than the term ‘digital portfolio’, there is a locally developed software tool, Aspiro, which is available to students in most academic institutions, and one research project has investigated the use of digital portfolios in teacher education programs at the University of Bergen and the University College Stord/Haugesund. Recently, a Special Competence Group was established by the Norwegian Opening Universities (NOU) to investigate the potential for digital portfolios in higher education.

The Danish National Agency for Flexible Learning (CFL) is currently looking into the potential of ePortfolio to promote and support lifelong learning for adult learners. This agency hosts conferences and seminars designed to inspire the audience to ePortfolio practice. In collaboration with the Swedish National Commission on Validation, it is hoped there will be a pilot project involving 1000 foreign workers using ePortfolios for skills validation.

Skoglöf (2007) notes that the Swedish Educational Broadcasting Company (UR) is currently engaged in ePortfolio activity. UR has recently set up a ‘Room for Storytelling’ where participants record their personal journeys. The aim is to spread ‘knowledge on how digital stories can be used in pedagogical contexts’ (Skoglöf, 2007, p. 12). UR has also joined with the Swedish National Agency for Education to undertake the Confolio project, which encourages sharing between users through the use of international standards. In a related development, mathematics teachers collaborated, using the Confolio system, to create a national network for learning resources in mathematics. The report indicates that while there are significant pockets of ePortfolio engagement and exploration in Sweden at present, the ePortfolio field is considered to be dynamic and expanding.

### 4.2.3 The standards context

Learner mobility within and between education, training and employment sectors, alongside the concepts of lifelong learning and the global education market are significant drivers for the requirement to move beyond static repositories to ensure ePortfolio data is secure, accessible and able to be exported and imported across different systems and services. ePortfolio specifications are the focus of work being undertaken by a number of organisations, including the IMS Global Consortium, JISC Centre for Educational Technology and Interoperability Standards (CETIS), SURF and Europortfolio.

IMS Global Consortium was created within the National Learning Infrastructure initiative of EDUCAUSE in 1997. IMS describes itself as:

> … a global, nonprofit, member organisation that strives to enable the growth and impact of learning technology in the education and corporate learning sectors worldwide. IMS members provide leadership in shaping and growing the learning industry through community development of interoperability and adoption practice standards and recognition of the return on investment from learning and educational technology.

(IMS, 2008a)

The IMS specifications framework was established as a response to the limitations imposed on online teaching and learning initiatives by a lack of coherent approach, what it defines as ‘the absence of agreed (upon) and compatible ways to describe teaching strategies (pedagogical approaches) and educational goals’ (IMS, 2008b). The framework provides a generic language that is still flexible enough to provide a set of accessible tools. It was originally developed by the Open University of the Netherlands (OUNL) (IMS, 2008c) and currently has partners from around the world representing over one hundred organisations. These include educational institutions as well as ICT vendors and government agencies. While IMS has coordinated the development of specifications and standards for a range of digital environments (such as metadata, web services and enterprise services), the IMS ePortfolio Specification (IMS, 2008b) is of particular relevance.

The IMS has a European presence through the European IMS Network, which is, in turn, a member of the Europortfolio Consortium. The members of this consortium span both the educational and technical dimensions of ePortfolio use, thus indicating very early in the development of ePortfolios the intention to mainstream ePortfolio use across the European education sector and into the wider community. Consortium members include EIfEL, European Schoolnet, JISC Centre for Technical Interoperability Standards (JISC CETIS) and European IMS. Europortfolio aims to ‘contribute to the definition of
technical standards; ensuring interoperability between ePortfolio and ePortfolio-related technologies and services’ (Europortfolio, 2008). Further collaborative work is being undertaken under the auspices of the European Portfolio Initiatives Co-ordination Committee (EPICC), which seeks to develop a vision and strategy for Europe to be a leader in ePortfolio technology and practice by ensuring the clear definition of ePortfolio functional requirements and interoperability standards. EPICC partners include IMS in Europe and JISC CETIS.

JISC CETIS represents UK Higher and Further Education in the initiatives that focus on international educational standards, to provide strategic and technical advice to universities and colleges (Joint Information Systems Committee JISC & Centre for Educational Technology and Interoperability Standards CETIS, 2008a). JISC CETIS runs a Portfolio Special Interest Group (SIG) to support engagement with the different standards bodies and to encourage community building and knowledge sharing in the areas of ePortfolio and e-PDP. JISC CETIS has been working closely with the University of Nottingham on the ePortfolio Reference Model Project, which seeks to develop a reference model for ePortfolios within the JISC e-Learning program, with recommendations for approaches which can be enabled by the eFramework for Education and Research. eFramework partners include JISC, SURF, the New Zealand Ministry of Education and the Department of Education, Employment and Workplace Relations (DEEWR) in Australia.

In this country, the issues of standards and interoperability in the education sector are the focus of work undertaken by the Australian Information & Communications Technology in Education Committee (AICTEC). AICTEC released a report in late 2007 that presented a summary of the current status of interoperability standards, the perceived gaps and future opportunities. A draft policy to encourage a collaborative standards framework is presented, together with an implementation plan (Croger Associates, 2007). The report recognises the real need for interoperability and collaboration, especially in the global context of education. However, it found that collaboration is often best managed at the sectoral level and furthered by the federal (as opposed to state or other) level of government.

At the federal level, eStandards for training are contextualised by the Australian Flexible Learning Framework (Framework). The E-Standards Expert Group (EEG) brings together key players from a range of national initiatives, including representatives of cross-sectoral organisations and the relevant State and Territory agencies. At a more grassroots level, the 2008 Framework Business Plan includes funding for key business activities for ePortfolios (DEEWR, 2007a), specifically to consider the potential for a national infrastructure with the appropriate technologies and standards to support learner mobility. A reference group that includes representatives from the Australian higher education sector will work towards achieving agreement on ePortfolio standards, policy and business rules.

### 4.3 Practice contexts

While American academics are widely represented at international conferences on ePortfolios, their own conference activity in the USA tends to be framed by the broader technological arena. At least 85 higher education communities across the USA use ePortfolios, with potentially more unreported. Home-grown ePortfolio technology and practice sit alongside the initiatives of commercial companies such as Blackboard. A number of key organisations have emerged in the last few years to bring ePortfolio practitioners together, including the Inter/National Coalition for Electronic Portfolio Research (NCEPR) and the Open Source Portfolio Initiative (OSPI).

The Inter/National Coalition for Electronic Portfolio Research is perhaps the most active of the American groups. Its aim is to develop and support research into practice by studying the impact of ePortfolios on student learning and educational outcomes. Academic institutions can apply for a three-year term of membership to the coalition (see Section 8.3). The Open Source Portfolio Initiative (OSPI) is ‘one of the largest open source projects in academia’ (Lee, 2007) and is hosted by two universities (Minnesota and Delaware) and the rSmart group, a company who develop open source software. The group aims to develop leading open source ePortfolio software while influencing and reflecting on best practice (Lee, 2007). Among individual universities engaged in ePortfolio practice, the two most advanced users are George Mason University and Indiana University–Purdue University Indianapolis (which is a co-founder of OSPI) (Lee, 2007). The latter employs ePortfolio process for students and teachers.
However, there is consensus that the ePortfolio environment in the USA is currently very ‘fractured’ (Lee, 2007, p. 47), with little coordination across disciplines or professions, as is evident in some other jurisdictions.

### 4.3.1 Professional and disciplinary contexts

As academic engagement in ePortfolios often takes place at the discipline level, this becomes a valuable context for the review of ePortfolio practice. Contrasting approaches to ePortfolio can be driven by disciplinary needs and context as well as profit by engagement outside of the university within the disciplinary area, for example employing bodies (Broadbent, 2006, p. 2).

Certain disciplines have a strong tradition of portfolios: visual arts, performing arts and architecture are all fields where a professional portfolio has long been critical (Lee, 2007), while teacher training programs and medical education are areas where professionals are accustomed to demonstrating the attainment and development of professional standards: ‘In these areas, ePortfolios are perceived as instruments that enhance learning and support the development of competencies’ (Berlanga et al., 2008, p. 24). The standards-based reforms of education, such as those in the USA, have contributed to an increased interest in the use of portfolios in general, and ePortfolios in particular, in teacher education (Butler, 2006).

In the UK, the DfES e-strategy, Harnessing Technology, has stimulated interest in the electronic portfolio that can be derived from the personal online learning space offered to learners. It has been further noted that certain professional groups, for example, those in the health sector, ‘are already required to develop and maintain portfolios of evidence to support their claims to competence’ (Duncan-Pitt & Sutherland, 2006, p. 70). Limitations of paper-based portfolios in terms of accessibility and flexibility are therefore encouraging some learning communities to move towards ePortfolios. It has been argued that in practice-based professions, ‘expertise is not derived from the application of higher-order knowledge to practice but rather as a result of complex situational understanding’ (Duncan-Pitt & Sutherland, 2006, p. 70). The ePortfolio process supports the notion of situated learning with learning situated in practice, as there is the opportunity to prepare ‘reflective, critical incident-type journal records’ (Duncan-Pitt & Sutherland, 2006, p. 72) that result in professionals who are more reflexive and more confident about their clinical practice.

ePortfolio conferences, professional journals and the learning and teaching literature present ample coverage of the various aspects of ePortfolio practice in practically all discipline areas. In this chapter, a small number of disciplines have been selected to highlight the role ePortfolios can play in supporting the development of professional standards: teaching, nursing, engineering and the medical sciences.

#### 4.3.1.1 Teaching

In the US, the National Board for Professional Teaching Standards (NBPTS) has established five core propositions in their professional standards manifesto. Among these are propositions especially germane to eLearning and ePortfolio use, including the need for teachers to keep abreast of multiple means of assessment of students (part of Proposition 3); that teachers employ reflective practice (part of Proposition 4); and Proposition 5, that ‘teachers are members of learning communities’ with the ability to build partnerships with community groups and business (NBPTS, 2008). The route to becoming a National Board Certified Teacher (NBCT) involves preparing and submitting a portfolio for assessment. NBCT candidates are asked to document their situated learning, that is, aspects of their teaching practice that demonstrate their ability to translate knowledge and theory into practice in real-life settings.

Across the world, teachers use their portfolios to foster continual self-assessment and awareness, as well as repositories for artefacts, activities, planning and assessment methods. The use of electronic portfolios in teacher education as well as within the professional context is emerging as fundamental to professional development. In Australia, where the teacher registration processes encompass the requirement to provide evidence of continuing professional development as a critical element of the renewal of registration, there is generally the opportunity to develop a professional portfolio (Western Australia, Victoria, Tasmania and Queensland). Dixon, Dixon and Pelliccione (2005) investigated the ePortfolio perceptions of 11 educational professionals, primary and secondary teachers, as this group engaged with a trial software package designed to support the creation of a professional portfolio.
Participants were very positive about the self-analysing and self-reflective nature of the activity and all agreed that the resultant portfolio was a very valuable personal asset. Finger (2005) notes that ePortfolio use by teachers helps facilitate not only the reflective capability, but also enables teachers to share ‘and be supported in their development of personal stories of learning’ (p. 9). The teaching portfolio, therefore, is viewed as supporting lifelong learning in the teaching environment.

There are numerous examples internationally of the successful implementation of ePortfolios as learning tools for pre-service teachers (Bartlett, 2006; Hauge, 2006; Peters, Chevrier, LeBlanc, Fortin, & Malette et al., 2006; Ring & Foti, 2006). In Australia, professional development for teachers involves the use of electronic portfolios. The Queensland Department of Education, Training and the Arts released their ‘Smart Classrooms’ initiative in 2005. A main premise is to create a community of teachers using computers in classrooms. Included in the initiative is an ICT Professional Development component that helps teachers construct a digital portfolio that ultimately gives them an ‘ICT Pedagogical License’ (Department of Education Training and the Arts DETA, 2007).

Australian Catholic University (ACU) restructured its four-year Bachelor of Education (primary) degree for delivery in 2006. This was against a background of increased scrutiny of teaching training and a call for national standards (Broadbent, 2006). The framework was taken from the Faculty of Education’s graduate attributes, which sought to encourage reflective practitioners, comfortable with and discerning in the use of new technologies, and committed to the relevance of lifelong and lifewide learning. With this in mind a Professional Experience Program was created in the Education Studies strand to see trainee teachers not only gaining direct professional experience, but also building community links with the employment sector as well as with non-formal educational contexts (for example, hospitals, community centres etc.). Professional ePortfolios were introduced to allow students to demonstrate understanding of professional issues and self-knowledge, and to clearly document this with evidence (Broadbent, 2006).

The use and development of ePortfolios in teacher education is also exemplified in a trial conducted at Curtin University of Technology involving 30 first year pre-service Education students (Pelliccione, Dixon & Giddings, 2005). The success of the trial, particularly in terms of the ability for students to develop a sense of ownership, self-reflection and engagement in the learning process, has seen electronic portfolios embedded in the Bachelor of Education's core curriculum. An ePortfolio or ‘webfolio’ project at James Cook University in 2003 offered pre-service teachers web-based case studies in a multimedia environment, including audio conversations and opinions as well as weblinks to in-person responses from practising professionals. These were then used to create the components of an ePortfolio. The approach was designed to promote integration and collaboration (Sorin, 2005).

The abundance of portfolio use in the teaching profession has also led to the use of portfolios by teacher-librarians. In 2005, the Australian School Library Association (ASLA), in conjunction with the Australian Library and Information Association (ALIA), jointly released a policy document to address the need for professional standards regarding their professional development and levels of excellence (Australian School Library Association, n.d.). This policy framework assists teacher-librarians with regard to their professional role in the areas of knowledge acquisition, practice and commitment. Included in these recommendations was a commitment to the utilisation of professional portfolios and the development of electronic portfolios (Mitchell, 2005, p. 8).

The use of ePortfolios in the education of library and information students is exemplified in QUT's own Master of Information Management. Building on more than a decade of portfolio development in the Professional Practice unit, the ePortfolio was introduced in 2003. The ePortfolio is introduced to students as a whole-of-course learning process, so that they are able to build connections between the different subject areas within the course, understand the relationship between theory and practice through authentic learning activities, fieldwork placements and casual employment, and develop their own understanding of the professional attributes through industry forums and career mentoring partnerships (Hallam & McAllister, 2008). In the UK, the Chartered Institute of Library and Information Professionals (CILIP) mandates the development and submission of a professional portfolio for all applications to become a chartered librarian.
4.3.1.2 Nursing

The use of educational portfolios applied in the health profession emerges in the literature in the late 1980s and early 1990s (Garrett & Jackson, 2006). In line with the continuing complexity of the role of health professionals, there is seen to be a need to use portfolios to facilitate personal reflections and to document professional development (McMullan et al., 2003). The Royal College of Nursing in the UK offers their members access to a ‘learning zone’ to encourage ongoing engagement with professional development. The College provides an ePortfolio, My portfolio, to record, collect evidence and reflect on learning, employment and achievements, and to develop action plans that can be used for re-registration purposes. In Queensland, the registration of nurse practitioners is managed by the Queensland Nursing Council (QNC). The QNC has adopted a portfolio approach to registration, with candidates asked to provide evidence of their clinical leadership and their reflective self-assessment of their attainment of the nurse practitioner competency standards.

Murray and Currant (2006) discuss the use of ePortfolios by undergraduate nurses and doctors in their work-based training and identify the differences between reflection and feedback process in both the academic context and the workplace context. In their work environment the pedagogical outcomes are quite different; in the workplace setting feedback from supervisors is recorded, while in the academic context the process involves both recording and reflecting on feedback.

While paper-based portfolios have been used extensively in the past, electronic portfolio use is emerging in line with technological and wireless developments. The University of British Columbia has designed a ‘clinical e-portfolio’ for nursing students to access clinical resources, information and reflect and record their clinical experiences remotely. Garrett and Jackson (2006) outline the development of the personal digital assistant (PDA) ePortfolio tool, which utilises a variety of media — text, audio and images; this mobile ePortfolio has been designed to synchronise with their web-based portfolio from remote locations. With the advantages of handheld technologies and the rise in the use of data management tools, the authors comment that it is logical to adopt the mobile use of portfolios within the clinical learning sector.

Responding to a rising call for standards and benchmarks and the establishment of a sectoral quality audit review board, in 2006 the Australian Catholic University (ACU), using the Australian Nursing Council competency standards as the framework, developed an ePortfolio model of best practice for the training of registered nurses. This had dual goals: firstly, to promote evidence-based practice, reflection and judgment, and secondly, to encourage students to see connections across the different units of study (Dennis, Hardy, & White, 2006, p. 1). It was hoped to identify the core components that would represent best practice for ePortfolio use within a discipline, but also be sufficiently generic to be transferable across disciplines so that the ePortfolio model could be extended to other faculties.

4.3.1.3 Engineering

In the School of Engineering at University of Tasmania a successful ePortfolio trial producing ‘mature and reflective portfolios’ was used in 2004–2005 (Sargison, Tatham, & Apsitis, 2006, p. 1) for engineering graduates to develop skills and attributes generally considered desirable in their intended profession. One of the drivers was a lack of satisfaction among academic staff in adapting the old traditional examination form to chart the inculcation of graduate attributes, which had then just been introduced. Both the reflection process and the information collection side were judged highly satisfactory. The use of the portfolios was expanded the following year (Sargison et al., 2006). Other examples of current ePortfolio projects within the engineering discipline include the University of Wollongong and the University of Melbourne.

QUT is the lead institution for the DEAMES project, which is the DEEWR EU Australia Mobilisation of Engineering Students project, a multi-partner project involving universities in the Australian Technology Network (ATN) and the European CLUSTER group of universities. The goal is to develop strategies to support the mobility of engineering students, graduates and academics in the increasingly complex environment of globalised education. The ePortfolio is being considered as a potential process and tool to support the recording of evidence of engineering skills. Meanwhile, at the University of Nottingham, the JOSEPH project (Joining up Organisations to Support new Engineering Pathways into Higher Education) is a collaborative activity involving colleges, schools and employers, linking the fields of
ePortfolio and Information, Advice and Guidance (IAG) in the context of the UK’s new 14–19 Diploma in Engineering. It is exploring vocational pathways for young people into higher education, as well as providing support for cross-institutional learning (University of Nottingham, 2008a).

4.3.1.4 Medical sciences

In Australia, projects involving the use of ePortfolios in medical education are underway at the University of New South Wales, University of Wollongong, University of Melbourne, University of Sydney, University of Queensland and Monash University. In the UK, the School of Medical Education Development, University of Newcastle, is doing extensive work in the area of ePortfolios, researching the issues of interoperability, mobile portfolios and Web 2.0 applications. The ePortfolio team hosts a website (www.ePortfolios.ac.uk) as a community resource. In February 2008, the Higher Education Academy (HEA) Subject Centre for Medicine, Dentistry and Veterinary Science hosted a one-day conference titled ePortfolios: Identity and personalised learning in healthcare education. The proceedings document the richness of ePortfolio practice in medical and health science education in the UK, especially in terms of collaboration across the sector as a whole, with regional and national projects involving other universities, such as Leeds, Sheffield, Dundee and Queen Mary’s University of London.

This is one example of the significant role of the HEA subject centres as inter-university disciplinary hubs. The HEA policy focus is on learning and teaching, and they aim to use the centres to amass empirical evidence, synthesise current research and build capacity for further research initiatives (Higher Education Academy, 2008a). There are currently 24 subject centres that facilitate communication between academics in related fields, with the websites providing access to resources such as case studies, research reports and funding opportunities. The discipline focus in ePortfolio practice becomes increasingly important when there is the need to align qualifications and career development with professional standards.

It is important to note that within Australian higher education that the discipline context, while currently less mature than in the UK, has the potential to provide a new framework for academic engagement. The ALTC has a keen focus on Discipline-based Initiatives (DBI), acknowledging ‘disciplinary affiliation as the primary site of engagement for the development and dissemination of good practice in learning and teaching’ (ALTC, 2008a), with ‘Discipline Communities’ accommodated within the ALTC Exchange (ALTC, 2008b).

4.3.2 ePortfolio use by staff in higher education

Findings from the national audit survey undertaken as part of the Australian ePortfolio project found that, to date, ePortfolios tended to be used more frequently by academic staff than by professional staff, although the numbers for both groups are still very small. In the focus groups, some participants commented on the potential value of ePortfolios for academic staff:

I believe academics are moving ahead with their career development and the ePortfolio would be a useful tool

I thinks it would be useful to introduce ePortfolios to academic staff for a period of six months before students use it then staff can reflect of their own educational practices before their students use it

A number of professional associations promote the value of teaching portfolios for academic staff, for example, the Staff and Educational Development Association (SEDA) in the UK and Higher Education Research and Development Association of Australasia (HERDSA) in this country link the portfolio process to their Fellowship schemes. The Flourish project coordinated by the University of Cumbria has been funded by the JISC Users and Innovation program, with the goal of developing an ePortfolio system for academic staff to document their own learning and achievement for a variety of professional purposes: career review, academic qualifications, professional accreditation and personal development (University of Cumbria, 2008). The project team hopes that the ePortfolio might be embedded within the Postgraduate Certificate in Teaching and Learning in Higher Education program and is also working with professional accreditation bodies such as HEA, SEDA and CILIP to assess the efficacy of the ePortfolio application. However, the range of users may extend beyond the teaching staff, to include line managers, professional staff and administrative staff.
A number of Australian universities (such as Swinburne University of Technology, University of Southern Queensland, QUT and University of Western Australia) are currently investigating the potential of ePortfolios to meet a range of purposes, including, support for new academics during their probationary period, support for more established teaching staff in the academic promotion process, or support for nominees for internal or external awards for teaching excellence. In regards to capability developments for professional staff, QUT is currently preparing to rollout professional staff ePortfolios (to be piloted in technical areas). ‘The staff ePortfolios will have links to performance planning and review (PP&R) processes, succession planning and will incorporate evidence-based secondments’ (Harper, August 24, 2007, personal communication).

The ePortfolio system at Queen Margaret University, Edinburgh, incorporates a specific program for university staff in regards to Continuing Professional Development (CPD). The university defines its CDP program for staff as ‘… supporting employees to understand more about the environment and profession in which they work, the job they do and how to do it better. It is an ongoing process throughout a Life Long Learner’s working life’ (Lind, 2007). Meanwhile, Warwick University promotes the ePortfolio to contract research staff. These are staff members who are professionally employed in a research role at the university. The ePortfolio provides a means of showcasing their research work, academic experiences and professional development, as well as serving as a showcase for the research work undertaken within the institution (Warwick University, 2008).

### 4.4 Other contexts

#### 4.4.1 K-12 education

Early education is embracing digital technology in step with its higher education counterparts. While examples of electronic portfolio activity in the schools sector are difficult to identify without the basis of a specific forum for discussion and collaboration, the ePortfolio Australia conference hosted by EIFEL, held in Melbourne in March 2007, attracted a number of delegates and speakers from Victorian primary and secondary schools. The principal focus was around Victorian schools that have initiated digital portfolio work in response to the Victorian Department of Education’s strategies for ICT in the curriculum. Multiple forms of media and digital tools were in use including Folio Maker software, PowerPoint, Microsoft's FrontPage Web design, Microsoft Photo Story software, and dedicated electronic or digital portfolio applications like EdCube and Concord.

Other State and Territory education initiatives incorporate digital portfolios within the curriculum. The Northern Territory's Building Better Schools program is currently in the process of identifying software appropriate for student portfolio work in all schools. The Tasmanian Education Department is currently trailng a digital portfolio template in K-10 schools, principally at Clarence High School. Queensland schools are also taking up the move to digital learning and reflective practice with support from the Government's Smart Classrooms initiative. The ‘Learning Place’ (Education Queensland, 2007), sponsored by Education Queensland, offers grants and funding for schools piloting digital portfolio work and currently provides teachers with access to workshops and activities around the development of digital portfolio creation for students with disabilities.

In 2009, the South Australian government will introduce a new Certificate of Education, Future SACE, for students in Years 10, 11 and 12. An important component of Future SACE is the Personal Development Plan, which will focus on the development of essential capabilities such as communication skills, personal skills including self-awareness and self-confidence, practical attributes that foster productivity and creativity, critical thinking and understanding of social and political issues. A second component of the Future SACE is an Extended Learning Initiative (ELI) that encourages students to research a topic of specific interest to them. The assessment process will include a portfolio that encompasses evidence of their research activities, their information management processes, their reflections on learning and reflections on feedback from teachers, tutors or mentors. An ePortfolio presents itself as a potential vehicle for recording and presenting the evidence.

The Australian Science and Mathematics School (ASMS) is a specialist high school for students in Years 11 and 12 and is co-located with Flinders University in Adelaide, South Australia. From 2003 the school
has employed Personalised Learning Plans, and since 2004 this has been delivered via an ePortfolio (Burns & Nelson, 2006). The ePortfolio forms part of a two-year sequence of nine interdisciplinary studies. ASMS sees itself as being part of EIfEL’s ‘2010’ framework and works in tandem with the State government through its Employability Skills Portfolio project. In an evaluation of the initiative, it was found that, while overall it had been a positive experience, some problems were encountered by students, for example, the lack of appropriate web authoring skills and the need for additional time to work on the ePortfolio as its use was outside the regular curriculum. These problems were subsequently addressed during 2005–2006. Future developments include embedding the tools in a learning management system and better integration with the rest of the curriculum.

In a further initiative, the Australian Department of Defence, in conjunction with the Department of Education, Employment and Workplace Relations (DEEWR), has created a Digital Student Portfolio resource for all defence families as a strategy to manage the educational mobility of children. The Digital Student Portfolio is an interactive multimedia program designed to capture the academic, sporting and social history of a child over each year of their schooling.

4.4.2 Vocational education and training (VET)

Some of the education and employment policy initiatives in Europe, specifically those delineated in the Declarations of Maastricht and Copenhagen in 2002 focus on vocational education and training, specifically on the need for lifelong learning and international worker mobility. Strategies developed to facilitate the ‘recognition and transferability of qualifications covering both VET and general education, based mainly on competences and learning outcomes in order to support the smooth and effective functioning of the European, national and sectoral labour markets’ (More Self-Esteem with my E-Portfolio MOSEP, 2008) include the European Qualifications Framework and the Europass.

The European Qualifications Framework (EQF) defines the different categories of competences: cognitive competence (use of theory and knowledge), functional competence (application of skills and know-how) and personal competence (social and ethical know-how). The EQF comprises eight different reference levels, or ‘learning outcomes’ that describe what a learner knows, understands and is able to do, which can be interpreted within the context of different qualifications, thus making national and international comparisons more straightforward. The Europass includes both personal and institutional documentation designed to help make skills and qualifications understandable across all countries in Europe: the Europass CV and Europass Language Passport can be completed and maintained by the individual, whereas the Europass Certificate Supplement, Europass Diploma Supplement and the Europass Mobility document are issued by institutions.

One of the key European ePortfolio projects in the VET area is the MOSEP (More Self-Esteem with my E-Portfolio) project (2008). This multinational project, led by Salzburg Research, Austria, runs from 2006 to 2008. It aims to counter the problem of adolescents dropping out of education, training and employment by using ePortfolios to strengthen student self-esteem, especially amongst those in the 14–16 age group facing decisions about entering vocational training. MOSEP involves a course of five interactive multimedia modules, available in multiple languages. The modules are designed to develop an understanding of the ePortfolio process and to encourage and support personalised, reflective learning. The MOSEP project team has noted that the tutorials can also be very helpful to academic staff and students in higher education, especially in situations where ePortfolios are being implemented as part of a university’s eLearning strategy. While the concepts presented in the MOSEP tutorials are not system specific, access is offered to the Mahara ePortfolio tool (see Section 4.2.2.5).

In the context of vocational education and training in Australia, the Australian Flexible Learning Framework released a report in April 2007 that documented the current issues and developments associated with ePortfolios, particularly in the Australian vocational education and training (VET) sector (Curyer et al., 2007). The report presented five specific use cases for ePortfolios within VET:

- transition into the VET sector
- learning within the VET sector
- transition from the VET sector to further education or work
- managing a VET workforce
- transition into self employment.
The report considered the specific issues of functionality and ePortfolio services, along with the business rules, policy areas and technical standards that would be required for the effective implementation of ePortfolios (Leeson, 2008).

Further research work into ePortfolio practice in the VET sector was undertaken in 2008 by education.au, culminating in a national symposium held in June 2008. The research findings for the VET sector echoed the overall findings for the higher education sector, discussed in detail in Chapter 6: ‘Engagement with e-portfolios in Australia has been sporadic and primarily at institutional level. To date there has been limited activity at the national or jurisdictional level to address key issues confronting the education and training community (education.au, 2008b). Nevertheless, the majority of the respondents to the VET survey indicated that there was a current and ‘future anticipated’ demand for ePortfolio services, with teaching staff and trainers driving the demand, rather than the students themselves — or indeed, the institutions. In stark contrast to the findings of the survey of higher education, the VET sector reported that recognition of prior learning (RPL) was a significant driver for ePortfolio implementation, with 48% of VET respondent, compared with around 12% of higher education respondents.

The researchers indicated there was scope for further discussion and debate on some of the policy key issues that can potentially encourage the development of a framework to assist in the implementation of ePortfolios in Australia, for example:

- Standards and interoperability
- Ownership, access, security and privacy
- Storage and archiving
- Support and resourcing.

A range of stakeholders in the ePortfolio arena, including policy and decision makers, were invited to the national symposium to discuss key strategic issues and directions. Members of the Australian ePortfolio Project were invited to present their analysis of ePortfolio activity in the higher education sector. Draft recommendations drawn from the symposium discussions have been released, presenting a series of ideas that cluster around five key themes: ownership and purpose; interoperability; shared understandings; training and user/teacher support; resourcing (education.au, 2008b). Many of the issues considered in the recommendations are pertinent to ePortfolio practice within the higher education sector and across the different education and employment sectors. The higher education sector needs to work with the schools sector, the VET sector and employers and the professions, as well as with the policy makers, to ensure there are indeed common aims and shared understandings, with appropriate policies and strategies, to effectively contribute to the achievement of the Federal Government’s education and productivity goals.

### 4.4.3 ePortfolios in the community: Digital storytelling

In the context of the wider community, the concept of digital storytelling is emerging as an activity whereby digital tools ‘help ordinary people tell their own “true stories” in a compelling and emotionally engaging form’ (Wikipedia, 2008), so that, fundamentally, it is about adapting the tradition of oral personal narratives through technology (Educause, 2007). A more detailed description proposes that:

\[\ldots a\ digital\ story\ is\ an\ engaging\ and\ creative\ multimedia\ production\ in\ which\ people\ or\ organisations\ document,\ preserve\ and\ share\ memorable\ stories\ of\ their\ lives\ or\ significant\ experiences\ of\ a\ group\ that\ are\ worth\ repeating.\ The\ multilayered\ process\ results\ in\ a\ tangible,\ valuable\ and\ lasting\ record\ of\ powerful\ experiences\ to\ save\ and\ share.\ \]  
(Rule, 2008)

A digital story may last three to eight minutes.

The pioneers of digital story telling established the Centre for Digital Storytelling (CDS) based in Berkeley, California (Centre for Digital Storytelling, 2008). Many digital storytelling projects commence in the community, with one of the earliest initiatives sponsored by the BBC in the UK, with the goal of capturing various local histories and cultures (Educause, 2007), to illustrate the ‘richness of people’s lives’ (University of Gloucestershire, 2007). British examples of community engagement with digital storytelling include Capture Wales (BBC Wales, 2008) and Bristol Stories (Bristol’s Museums, Galleries and Archives, 2008), while in Australia, the State Library of Queensland has its own Queensland
Stories, which seeks to develop a collection of stories that record and document the diversity of Queenslanders’ lives, with some specific localised collections within the larger collection (State Library of Queensland, 2008). Queensland Museum has also established an interactive collection of refugee stories (Queensland Museum, 2008). Production workshops are offered by the Australian Centre for the Moving Image (ACMI) to help members of the community gain the skills required to become a digital storyteller (ACMI, 2008). In 2006, ACMI hosted an international conference to stimulate interest in digital storytelling. A very broad audience was identified: ‘Digital Storytelling practitioners, media artists, and academics in media, games and cultural studies … telecommunications providers and those interested in Digital Storytelling as a communication and educational tool … community development practitioners, those involved in the oral history and museum industries, and representatives from the health sector …’ (ACMI, 2006). Leadership in the field of digital storytelling in Australia is offered by QUT through the Creative Industries Faculty, where researchers have developed ‘applications for teaching, applied research, heritage, youth welfare, health and international development contexts’ (Queensland University of Technology, 2008).

While the digital literacy angle of the field has encouraged primary and secondary teachers to initiate projects with their students, with a keen focus on the activity to support students at risk, there is also a growing interest within the higher education sector. In the UK, JISC has funded a project within the discipline areas of medicine and dietetics that investigates the use of digital storytelling to develop reflective learning through Web 2.0 technologies such as blogs, wikis, social networking sites and media sharing sites (JISC, 2008c). The project seeks to resolve some of the issues associated with the reticence of students to engage in reflective learning, based on the premise that reflective practice is generally communicated in a text-based medium, while the researchers argue that the students, as representatives of the Net Generation, are comfortable in a multimedia environment. The research hypothesis presented is that ‘digital storytelling has the potential to motivate learners to actively engage in reflective learning and that next generation technologies and practices have an important role in facilitating this process’ (JISC, 2008d). The project team based in Leeds (University of Leeds and Leeds Metropolitan University) will complete their study in March 2009.

In the United States, Barrett has considered the relationship between ePortfolios and digital storytelling:

An ePortfolio is a purposeful collection of work that demonstrates effort, progress and achievement over time, stored in an electronic container (CD, DVD, www). In this context and in terms of the technology, a digital story is a digital video clip, told in the author’s own voice, illustrated mostly with still images, with an optional music track added for emotional effect. Rhetorically, a digital story is a personal narrative that may show the author’s identity: strengths, weaknesses, achievements, disappointments, learning experiences, passions, and hopes for the future; in other words: reflection.

(Barrett, 2006)

Barrett argues that the element of ‘voice’ is absent from an ePortfolio, so that through digital storytelling the authentic voice, or unique personality, of the subject is heard. Accordingly, reflection is recognised as the key element of a portfolio, with digital storytelling becoming ‘a highly motivating strategy that can make reflection concrete and visible’ (Barrett, 2006).

At the current point in time in Australia, however, there is little crossover between ePortfolios and digital stories. Nevertheless, the higher education sector needs to be sensitive to emergent practice of digital storytelling, particularly in terms of the impact and influence it may have within the context of eLearning.
4.5 Summary

Through the investigation of the national and international contexts that frame current ePortfolio practice the project team sought to present an analysis of the different policy and practice issues that are associated with ePortfolios in education. The review has highlighted the specific policy environments in Europe and the UK that have contributed to the development of initiatives that focus on the goals of employability skills and lifelong learning, not only to support workforce participation and mobility, but also to encourage the ongoing development of knowledge and skills within specific professions. There is a strong interest in achieving integration across the different education and employment sectors, which is stimulating developmental work in the area of standards to support the identification of key data sets that can be migrated between different ePortfolio systems.

It was noted that — to date — there is scant evidence of ePortfolio activity within the business sector and in the broader community, although future directions in Web 2.0 applications and social networking may possibly influence activities in this area.

While this chapter has focused on the factors that have stimulated — or have the potential to stimulate — engagement with ePortfolios in education, it is also important to consider a range of issues that are associated the implementation of ePortfolios in educational settings. These are presented in Chapter 5, with specific attention paid to the perspectives of the different stakeholders: academic managers, teaching staff and the learners themselves.
5. **ISSUES RELATING TO EPORTFOLIO PRACTICE IN HIGHER EDUCATION**

**Goal 3:** To identify any significant issues related to the approaches being developed in Australian education and the likely impact on what is happening in Australian higher education

### 5.1 Overview

The contemporary context of education is one of a rapidly changing learning environment that effectively challenges many of the assumptions of years past. Siemens argues that ePortfolio growth has been fuelled by 'the dynamics of functioning in a knowledge economy, the changing nature of learning, and the changing needs of the learner’ (Siemens, 2004, p. 2), as outlined in the discussion on the policy environment in Chapter 4.

The critical issues surrounding ePortfolio can be divided into issues of policy or issues of practice. On the policy side are questions of government policy and its role in the development of ePortfolio across all the sectors including business and education, especially the higher education sector, as well as considerations of academic policy within the institution. The practice issues cover the learning and teaching context, not only in terms of academic staff, but also in terms of academic support. Issues impacting on the individual learner are presented and discussed.

The potential benefits of ePortfolios in education are widely discussed in the literature. DiBiase (2002) highlights the role of ePortfolios in developing students’ information technology skills and reflective attitudes, but argues that the benefits extend beyond the learners themselves to impact positively on faculty members and academic institutions.

A summary of the opportunities offered by Danielson and Abrutyn (1997) include:

- benefits to students (increased learning effectiveness; model professionalism; enhancing information technology skills; gain academic created for extracurricular learning)
- benefits to faculty (including to align objectives and evaluation strategies to more efficiently manage student deliverables)
- benefits to the institution (including opportunities to respond to calls for greater accountability and outcomes-based accreditation).

However, the ePortfolio world is one where an immature approach can limit the effective exploitation of the advantages ePortfolio offers. The following elements contribute to a dense and multi-layered environment: diversity of learners; the range of learning and teaching contexts and the distinctiveness of academic institutions; and the role played by extra-institutional bodies such as industry partners and government policy makers.

An examination of these policy and practice issues seeks to capture the perspectives not only of learners and educators, but also of academic managers and policy makers (Cooper & Love, 2007, p. 297; Beetham, 2006). It should be noted that the university itself interfaces with a number of other environments. The learner’s relationships with family, peers and the wider community are important areas of support and influence that are integral to the individual personality and behaviour. Beyond this, his/her experiences and outcomes from school, VET and employment are also likely to be factors that have been a support or influence. Through the learner, therefore, the institution interfaces with the schools sector, the vocational education sector and the employment sector. Meanwhile, the academics who interact with the learner as teachers or tutors are important stakeholders in the learning process. As such, their interaction with colleagues in other universities or with professional associates represents another example of the interface with organisations and individuals beyond the university.
In the academic policy area, there are interfaces at the faculty or division level, as well as at the institutional level. At the faculty or course level, there are relationships across universities, often in the immediate discipline area as well as with the professional bodies and associations. At the executive level, there are interfaces with academic peak bodies within and across the sector, once again with employers and the professions, and potentially also beyond the sector through interaction with other sectors such as the vocational education and schools sectors. At the higher levels, the relationships may extend beyond the Australian education context to consider international initiatives such as reciprocity of qualifications or international accreditation factors.

Findings from the research indicate that, for effective ePortfolio implementation, all the contexts, layers and stakeholders have a role to play and a contribution to make. Table 5.1 presents diagrammatically the different contexts, factors, stakeholders and relationships. With the elements comprehensively and coherently in place, an ePortfolio initiative may be successful, sustainable and scalable; if any of the elements are missing, the challenges are greater and the risk factors more significant. The different elements and their relationships form the topic of this chapter.
Table 5.1: The Hallam, Harper and Hauville model of ePortfolio factors, stakeholders and relationships

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<tr>
<th>Policy and practice factors</th>
<th>Context</th>
<th>Level</th>
<th>Stakeholders</th>
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<td>HE policy</td>
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<td>T&amp;L policy (faculty, course)</td>
<td>L&amp;T context</td>
<td>Operational</td>
<td>Faculties/Support divisions</td>
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<td>Staff development</td>
<td>Work</td>
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Table 5.1: The Hallam, Harper and Hauville model of ePortfolio factors, stakeholders and relationships

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<th>International relationships</th>
<th>National relationships</th>
<th>Policy and practice factors</th>
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<td>Academic stakeholders</td>
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<td>International Centre for</td>
<td>Employees VET PPL</td>
<td>Staff development</td>
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5.2 Policy perspectives

If the higher education sector is to effectively fulfil its role in producing skilled professionals who will play a significant role in the future success of the Australian community and economy, then the potential of ePortfolios to bring together educational technologies and quality learning processes, and to provide evidence of individual achievement and employability skills should not be ignored. While the current policy environment in Australia (as discussed Chapter 4) differs significantly from the European policy environment, it is argued that clear policies and strategies are required at both the sector and institutional levels to ensure that advantage is taken of the opportunities for connectivity and cohesion in the development and delivery of education services.

5.2.1 Higher education policy

Higher education policy is set against the background of the broader education policy. Following the Federal election in Australia in November 2007, the new government has established a Review of Australian Higher Education. The terms of reference for the review panel include the need to report on the sector’s ‘fitness for purpose in meeting the needs of the Australian community and economy’ (DEEWR, 2008a), as well as the options for ongoing reform. The issues of national productivity, participation in the labour market and the ability to respond to the needs of industry are topical, specifically in the context of positioning of higher education within the broader tertiary education sector in order to achieve an integrated relationship with vocational education and training.

One of the critical aspects of government policy is to consider the relationship between education and employment, as well as the development of employability skills, especially given the current focus on the skills shortage in Australia. The significance of policy drivers for ePortfolio practice in Europe and the UK, discussed in Chapter 4, should be considered in the Australian context. Under the Lisbon Recognition Convention, ratified by Australia in 2002, the Australian education community is committed to the goals of the Bologna Process, which encourage greater consistency and portability of qualifications within and across different education systems. The Bologna Process aims to facilitate communication and movement between European education institutions. An Australian Government discussion paper released in 2006 argued that there is a danger of Australia losing European enrolments if such a system were to become the international norm without Australia as a party (DEST, 2006). Australia’s role as a major education provider in the Asia-Pacific region was also a factor to consider. The importance of student mobility, which can be supported through formal documentation such as the diploma supplement (see Chapter 7), as well as through the personalised records of learning outcomes, is therefore highly relevant to the ePortfolio debate.

Student mobility fuels the necessity for the transportability of academic credits across institutions, as well as transition in and out of secondary and vocational education. Some students complete university subjects or vocational certificates while still at school and require these achievements to be recognised when they apply for further study. As noted in Chapter 4, the Australian Flexible Learning Network has a keen focus on ePortfolio implementation in the VET sector, acknowledging the importance of cross-sector engagement. Authors of the background paper to the national symposium on ePortfolios in the VET sector underscore the importance of policy development to address the general development and management of ePortfolio services; the portability of information about qualifications and competencies; recognition of prior learning; the management and provision of secure and verifiable personal information and privacy (education.au, 2008a).

Leeson argues recent developments suggest the shift from ‘institutionally-owned’ to ‘learner-owned’ ePortfolio implies a rethink of policy or at least a shift in its implementation (Leeson, 2008). Leeson identifies a number of initiatives impacting on the education sector and on policy development: the PILIN project, Web 2.0 developments, the Australian Higher Education Graduation Statement (AHEGS) project and the current Australian ePortfolio Project. The PILIN (Persistent Identifier Linking Infrastructure) project examines the use of persistent identifiers applied to eLearning, eResearch and eScience. In the context of ePortfolios, it would be possible for users to maintain links to important data in their ePortfolio. The AHEGS project is discussed in Chapter 7 of this report, and issues associated with Web 2.0 are discussed in this chapter.
Especially pertinent to ePortfolios is the Federal government’s Digital Education Revolution policy, which has been described as aiming to create ‘sustainable and meaningful change to teaching and learning in Australian schools that will prepare students for further education, training, jobs of the future and to live and work in a digital world’ (DEEWR, 2008c). If ePortfolios were embedded in learning and teaching in the schools, there would be raised expectations of and familiarity with the ePortfolio process by the time the student reached the higher education sector. Among the new funding commitments is one to further ‘collaboration with states and territories and Deans of Education to ensure new and continuing teachers have access to training in the use of ICT that enables them to enrich student learning’ (DEEWR, 2008c), so that there is further potential to promote the use of ePortfolios in teacher education and professional development.

Within the context of higher education policy, there is also the opportunity to consider the topic of teaching quality, as indicated in the Higher Education Review discussion paper (DEEWR, 2008d). The ALTC has established a project to determine and shape the key issues for the sector and its partners. The Teaching Quality Indicators Project provides the Australian higher education sector with ‘the opportunity to proactively engage with the issue of recognising and rewarding quality teaching and teachers and to lead the institutions and sector in defining and developing indicators and outcomes of quality teaching’ (ALTC, 2008b). As discussed in Section 4.3.2, the role that ePortfolios can play in recording and reflecting upon skills development, for personal development planning and for showcasing achievements, is particularly relevant to the area of teaching excellence.

In the background paper on ePortfolios in the VET sector, education.au (2008a) has listed a range of issues that need to be considered by the various stakeholders. Of relevance to the policy context of the higher education sector, and indeed across the education and employment sectors, are:

- **Policy issues**: general development and management of ePortfolio services, portability of information about qualifications and competencies, recognition of prior learning, the management and provision of secure and verifiable personal information and privacy.

- **Standards and specification to enable interoperability and portability**: That is the ability to transfer an ePortfolio from one place to another without having to recreate the e-portfolio in another system. Portability can be achieved if there is interoperability (that is, the ability of one system to talk to another). Portability and interoperability increase the longevity of ePortfolios. At a system level a framework of common standards and specifications will be required to facilitate portability from institution to institution or across states.

- **Service oriented approach to e-portfolios**: (JISC e-portfolio Reference Model): this approach allows the aggregation of services from a number of providers. Key issues for discussion include how is this service provided and managed, what collaborative structures are required, and where is it best placed.

- **Future proofing ePortfolios**: we will need to consider how ePortfolio services might need to interact with other applications and services. Some might be other e-portfolio services while others could relate to services supporting ePortfolio activities. In short, ePortfolio standards will need to be addressed within an organisation’s infrastructure to include authentication and authorisation services, digital rights management, persistent identifiers etc.

### 5.2.2 Institutional policy

The culture of an academic institution can be either supportive of ePortfolio practice, neutral in support or, at its worst, counterproductive or even destructive. Ideally, an organisational culture will support behaviours that are consistent with the institution's mission and values and encourage achievement of organisational objectives.

ePortfolio projects often succeed when a university explicitly supports and encourages a spirit of innovation that is aligned with the values of experimentation and entrepreneurial activity or fosters a culture of student-centred learning. Penn State University has accredited the initial success of its ePortfolio to ‘vision of a university culture centered on students’ evidence of, and reflections upon, their curricular and co-curricular achievements’ (Johnson & DiBiase, 2004, p. 18), while Garis (2006) acknowledged that the implementation of the Career ePortfolio at Florida State University, which is an
example of an ePortfolio structured around a matrix of skills, ensured that it was successfully integrated with the university culture. The university valued the students’ opportunities to link education and employment by developing and pursuing a personal but strategic career vision, contributing to a new global economy characterised by information technology and alternative ways of working, making effective contributions in the contemporary workplace, and by making clear connections between education, work and community organisations (Garis, 2006). In an increasingly competitive funding environment, many universities ‘strive for quality and uniqueness’ through their mission and philosophy to encourage enrolments at an institution (Leggett & Bunker, 2006, p. 2).

Beyond institutional culture and philosophy, however, there is the need for guidance through the university’s strategic direction. The strategic needs of the institution tend to be developed in long cycles, often five years, which allows the institution to manage the challenges and opportunities ahead. The strategic direction may, however, not be easily reconciled with emerging technologies, which can be developed and adopted in shorter timeframes. Strategy needs to be articulated into tactical decisions, with a strong balance between the ‘top down’ and ‘bottom up’ approaches:

Support by management is crucial, the lines of development are best to be chosen as a result of a bottom up process, but after the decisions are made management should support and facilitate them top down by defining a strategic framework

(Aalderink & Veugelers, 2005)

This means that while institutions are able to enact policy within the wider framework of their strategic plans, it is seldom the case that the policy is enacted before any practice. Where emerging technologies are concerned, practice is unlikely to be at the university level; however, it soon requires framing at the institutional policy level if it is to be effective.

In the UK, however, there are examples of policy driving practice; one example of university policy indicated the personal development of the individual should be promoted, specifically through the use of PDP as an explicit component of the student experience of learning. The policy was translated into practice through PDP being addressed, and assessed in some way, within one core module at each level of study in the Faculty of Arts, Law and Social Sciences (Cosh, 2008a). While the initiative took place within a single faculty, the value of the project to a wide group of stakeholders has been recognised at the institutional level, with responsibilities at both the strategic and tactical levels: a university-wide working party was established. The working party includes representatives from each faculty as well as from the Students’ Union and the Careers Service. The objectives of the working party are to provide simplified and more attractive web resources for students, provide web resources for staff including case studies and support materials, investigate further methods of supporting staff and encouraging engagement, and investigate how PDP could become more seamlessly integrated within the student experience (Cosh, 2008b).

The university’s own culture can therefore foster and support institution-wide consultation, which is, in fact, a recommended strategy: ‘Partnerships with academic technology departments, teaching and learning centers, and information technology groups should be established early in the implementation process’ (Batson & Chen, 2008, p. 7). Findings from the national audit indicated that there was a growing trend for cross-institutional collaboration, as well as — conversely — that a lack of collaborative support could impact negatively on an ePortfolio project.

education.au (2008a) highlights the range of issues to be addressed by institutional policies, although there may also be implications across institutions and the sector:

- **Storage and archiving**: how much space are institutions willing to provide to their users. If ePortfolios are to follow their creators throughout life, issues of archiving will need to be addressed. Standards and policies will need to consider the minimum and maximum storage allowances, maintenance procedures, portability and disposal. Costs and funding for storage will also need to be addressed.

- **Access, security and privacy**: A range of permissions will need to be accommodated. Models for a range of user types will need to be considered. Security issues include not only access but also portability and authentication. How do you ensure that one is the owner/creator of one’s ePortfolio artefacts? This raises security and privacy issues and threatens ownership and copyright to ePortfolios; there is a need for policies and guidelines relating to privacy and access.
Authentication: ePortfolios may be vulnerable to false claims of individuals. Assessors and employers may need to verify that the work belongs to primary users. In some instances, institutions and ePortfolio providers, by working together, can create automatic verification processes for claims such as awards and qualifications.

Learner owned versus institutionally provided ePortfolios: The notion of learner owned ePortfolios is gaining acceptance and attracting discussion. This approach will require a rethink of the policies and requirements of ePortfolios. In this environment ePortfolios may consist of artefacts drawn together from across the web using institutionally provided services and public web services.

Harper, McCowan, Hauville, Moody and Chorazyczweski (2007) stress the importance of ensuring that the policy frameworks and design controls allow students maximum flexibility whilst being realistic about issues such as privacy, confidentiality and intellectual property. While features such as student control over portfolio viewing access protect students from excessive risk, portfolio development and training also educates students to be careful when sharing information over the web. Other issues include accessibility and equity and internet access protocols. Many institutions have internet usage quotas for students, especially among undergraduates. Web-based software may impact on the volume of data uploaded and downloaded by students. Beyond this, if ePortfolios feature extended access to lifelong learning then consideration must be given to all the issues associated with extra-institutional use.

Ensuring compliance with data protection laws is critical for institutions and should be part of any ePortfolio development from a systemic, institutional point of view (Charlesworth & Home, 2004). Legal issues also include security of the data, especially of individuals and their permission to use it; the balance of access against privacy, especially when it comes to monitoring online activity; and potential liability on the part of the institution over content that they are hosting (Charlesworth & Home, 2004; Kift et al., 2007).

It has been argued that online social networking offers a ‘solid basis for comparison’ to hold against issues to student privacy and intellectual property when it comes to ePortfolios (Kift et al., 2007, p. 2). Again, the advantages of a strong policy framework at an institutional level to underpin ePortfolio use are regarded as critical.

In order for students to remain engaged in the ePortfolio process, it is necessary both to promote and to encourage creative and uninhibited reflection and expression while safeguarding students from institutionally-facilitated cyber-harm. The strong design controls and intentional policy framework we have implemented … provides a useful model for other institutions … (Kift et al., 2007, p. 13).

With a university-wide ePortfolio system in place, QUT established a two-prong approach to policy:

• ensure that a coherent history of use by students was available
• make student users aware of the parameters of their use of the ePortfolio environment and their responsibilities in using it.

This policy approach, coupled with strong ICT support, means that problems may be targeted immediately and appropriately (Kift et al., 2007).

The degree of integration with other enterprise systems is an important issue for consideration. Some universities use ePortfolio applications that are integral components of the learning management system (LMS), such as Blackboard or WebCT, while other home-grown options have seen the tool incorporated into the internet portal that may typically provide student access to the enrolment, class allocation and timetabling systems. Aalderink and Veugelers have highlighted the technical challenges of creating functional workflows in an integrated technical infrastructure: ‘In most cases e-portfolio is not just a single tool (one piece of software), it is more often part of a larger technical configuration, in which the required functionality may be met by the interoperation of different hard- and software tools’ (Aalderink & Veugelers, 2005). The legal issues associated with home-grown systems must be noted: although developed by staff, the systems tend to belong to the institution, notwithstanding some parts that might have been created by contractors, so ownership would need to be assigned. Parts of the system might also have been derived from — and thereby designated — Open Source, which means rights would have to be included in any agreements of use (Charlesworth & Home, 2004).
5.3 Practice perspectives

The policy issues in themselves have the potential to stimulate discussion about how universities can contribute to the national agenda for increased participation in education and the professional labour market. ePortfolios have the potential to help individuals and employers focus on employability skills, career planning and lifelong learning. Beyond this, however, there is a range of practice issues to be considered to ensure the effective implementation of ePortfolios that will derive a positive impact on student learning outcomes. Academic staff need not only to understand the opportunities that are offered by ePortfolios, but also have the desired level of pedagogical knowledge and ICT skills to drive successful initiatives. Support for academic staff through ICT divisions, academic support services and careers and employment is also a critical factor. Beyond this, the learners themselves need to be prepared for the impact ePortfolios can have on their learning processes and learning outcomes.

5.3.1 Academic staff

At the ‘academic coalface’ teaching has moved from the traditional mode of the ‘sage on the stage’, which is predicated pedagogically on ‘what things individuals can be taught’ to a more constructivist mode of the ‘guide on the side’ (King, 1993), where the defining issue is describe ‘how and what people have learned’ (Cooper & Love, 2007, p. 273). However, at present, not all academics have made the transition from old to new modes. This is not necessarily because of stubbornness or perversity; it often reflects reasons such as the level of ICT skills of academics (which is a problem common to all eLearning areas, not just ePortfolios) or the fact that their teaching philosophy might not actually encompass the environment of eLearning.

In line with many other dimensions of eLearning, the implementation of ePortfolios in the curriculum will only be effective if they are integral to the learning activities or the assessment and if they have a specific and integrated purpose. The introduction of ePortfolios as a learning or an assessment activity therefore requires academic staff to consider the learning goals for the subject and to subsequently evaluate the extent to which there is congruence between learning activities, assessment and learning outcomes.

Portfolios should be tailored to the purposes for which they are used in the learning environment.
Introducing portfolios is not a good idea in all curricula.

(Aalderink & Veugelers, 2005)

However, DiBiase (2002) has argued that ‘by providing visible evidence of student achievement, e-Portfolios offer great promise as a means to assess the effectiveness of individual classes as well as entire academic programs’. Specific benefits to teachers include the capacity to gain deeper insights into the learner as a person, so that the process of providing academic advice becomes richer and deeper (DiBiase, 2002), and potentially more meaningful to the student. At the same time the workload implications for academic staff must be acknowledged: ‘teachers … are responsible for the tasks involved. If they fail to appreciate the added value that working with portfolios provides, they will not invest the relatively large amount of time and energy required’ (Aalderink & Veugelers, 2005).

Drawing on her research at Anglia Ruskin University, Cosh (2008a) has argued that staff engagement is crucial, indicating that ‘there was a clear correlation between the attitudes of students to PDP [ePortfolios] and those of the staff delivering it’. It was felt that the attitude of staff towards ePortfolios had a significant influence on the student response, which meant that, for implementation to be meaningful, staff needed to be conscious of and committed to the benefits of ePortfolio practice. It was reported that not all staff understood the value of PDP, some of them regarding the activities as ‘an additional challenge or burden’ (Cosh, 2008a). It was found that there was likely to be greater engagement with the implementation of PDP if its inclusion in a learning module was mandatory: ‘if staff do not teach on a PDP delivery module, they [tend] to ignore the subject completely’ (Cosh, 2008a), which significantly reduced the potential value of ePortfolios being integrated into the whole program.

In terms of academic workload, the overhead of time to access individual students’ ePortfolios, plan and introduce the learning activities that utilise the ePortfolios, support and advise the students during
the semester, and also access the ePortfolios to provide meaningful feedback can be prohibitive and has support ramifications. Blunting academic engagement would be a great pity not only in terms of course delivery and its impact on students, but also because much of the innovation in the ePortfolio area has been ‘bottom up’, coming from individual academics or those, working collaboratively, in a unit. Undoubtedly, the Faculty or other unit can offer the opportunity for collaboration and peer support:

*Sharing of outcomes with each other is also an important element. E-portfolio implementation is not an easy job to do. Learning from each other, and making new choices together helps to keep the stakeholders involved.*

(Aalderink & Veugelers, 2005)

There are strong arguments for academic staff to be encouraged to develop their own ePortfolios. Current practice is outlined in Section 4.3.2, highlighting the value in the areas of tenure and promotion, and drawing together the multiple dimensions of academic life: teaching, research and service. In addition, ePortfolios also offer a way of recording an academic’s own achievements of teaching excellence, to provide evidence of and reflections on student learning.

### 5.3.2 Support for academic staff

In universities, support for academic staff is provided by the Faculty and support divisions, including Deans, Associate Deans, Heads of School, learning and teaching support staff, administrators and ICT support staff. In the context of ePortfolio projects in the Netherlands, it was found that ‘management should provide solid support for the educational change implied by the use of portfolios’ (Aalderink & Veugelers, 2005). A champion in each school or course can make a significant difference: it has been argued that ePortfolio practice essentially needs to become part of the culture in the school or the faculty if students are to be convinced of its relevance and value (Cosh, 2008a). The national audit confirms this, with strongly articulated needs for champions at the faculty and institutional level to support innovation and experimentation.

Cooper and Love have argued that effective support represents one of the most critical perspectives on ePortfolio: ‘pedagogic and administrative concerns represent the central functional issues in the design of e-Portfolios’ (Cooper & Love, 2007, p. 273). Within the institutional environment, learning and teaching support, along with ICT support services, are critical aspects of successful ePortfolio development and implementation. ‘Another important form of support is that on the functional-pedagogical and on the technical-instrumental side in the different departments and in co-operation with institution wide support units for IT and educational development,’ claim Aalderink and Veugelers (2005). In the US context, Espinosa conducted a 360 degree view of ePortfolios in a higher education setting, taking into account the perspectives of administrators and faculty managers. The study charted the complexity of the ‘relationships at the technical, policy and human touch points’, as well as the challenges not simply for communication but at the level of coordination and planning (Espinosa, 2007, p. 7).

In the PDP initiative in the Faculty of Arts, Law and Social Sciences at Anglia Ruskin University, the Assistant Dean and the Learning and Teaching Advisor played a key role in dealing with some of the issues raised by academic staff when asked to introduce PDP activities into their leaning modules. They developed guidelines and suggestions for the integration of PDP activities, as well as a workshop. The challenge of the academic workload meant, however, that the workshop needed to be scheduled for a time when the demands on staff time were not too high. The Anglia Ruskin initiative also saw the appointment of ‘link staff’ in each of the five different departments of the faculty, whose role was to coordinate PDP activities and ‘to cascade understanding of and commitment for PDP’ (Cosh, 2008a). At the conclusion of the project evaluation, the value of the link staff was acknowledged, both in terms of a coordinated understanding of the different approaches to PDP implementation and to develop the foundation for a community of practice to share ideas, to increase understanding and to disseminate good practice. This topic is expanded on in the chapter on communities of practice in Chapter 8.

The present project investigation indicated a rising instance of centralised coordination through ICT and/or learning and teaching support, which aided in the implementation of ePortfolios, taking some of
the burden off the individual academic units. The survey indicated, at the local level, the need for strong ICT support (which has been discussed at the international level):

Electronic portfolios must be supported by an adequate IT infrastructure. No ripples are felt while functioning is smooth, but problems with IT could prove an excuse to postpone or avoid investing in working with portfolios.

(Aalderink & Veugelers, 2005)

Additionally, like all ICT projects, ePortfolio requires a funding commitment on the part of the university. Regardless of whether the system is home-grown, off-the-shelf or open source it still requires support. In some ways a commercial vendor system may be simpler for the university, since the institution is already committed to supporting the infrastructure. There may, however, be tensions between the home-grown system and the generic commercial vendor approach, since the home-grown systems are often purpose-built for the particular environment of the university hosting it and the specific teaching and learning needs of staff and students. However, Batson and Chen stress the value of the ePortfolio process over the ePortfolio tool, recommending that a ‘clear articulation of the portfolio philosophy is necessary in order to keep discussions focused on learning outcomes and not on the technology and how to manage it’ (2008, pp. 6–7).

While ePortfolios have the potential to be the centre of convergence or an opportunity to join up the different dimensions of learning, it is important that academic staff involved in the implementation acquire the support they need at both the academic unit and the individual levels, whether that is pedagogical support from academic peers and teaching and learning support; technological support from ICT support and learning design; or management and administrative support at the faculty or other unit level.

5.3.3 Learners

It has been noted that the ePortfolio, as a product, provides a personal space where students can collect the digital artefacts that present evidence of their experiences and achievements, with the potential of articulating actual learning outcomes. On the other hand, the ePortfolio, as a process, allows students to move beyond the notion of what they have learned, to consider how they have learned and to understand the conceptual connections inherent in the creative process of learning. The ePortfolio also provides an opportunity for providing linkages between learning and assessment, with the focus changing from assessment of learning to assessment for learning. The processes of self-reflection and self-evaluation can encourage the independence, initiative and confidence of learners. Thus, ePortfolios have the potential to support pedagogical approaches that foster student motivation for learning and student engagement with their learning by highlighting the positive aspects of progress and achievement, as opposed to failure.

The benefits offered to learners by developing and using their ePortfolio are widely documented. education.au (2008a) has listed seven key benefits:

- Improving learning effectiveness
- Improving information technology skills
- Enabling accreditation beyond the classroom environment
- Enabling connections among formal and informal learning experience
- Enabling an archive of one’s artefacts and reflections
- Enabling the efficient management of students’ work
- Increasing transparency.

Siemens (2004) supports and further augments this list:

- Personal knowledge management
- History of development and growth
- Planning/goal setting tool
- Provide the metacognitive elements needed to assist learners in planning future learning needs based on previous successes and failures
- Personal control of learning history (as compared to organisations controlling learner history).
DiBiase (2002) indicates that the ePortfolio initiative at Penn State University ‘promotes the development of personalised web-based collections’ that include selective evidence from coursework; artifacts from extracurricular activities and reflective annotations and commentary related to these experiences. The ePortfolio activity may be scaffolded across a unit of study (subject), across a combination of units, or across a complete program, with examples and reflections encompassing curricular and co-curricular activities that span the student’s entire academic career. One Australian institution, Macquarie University, announced recently that it planned an ‘overhaul of its curriculum designed to provide a broader education and more socially aware graduates’ (Ferrari, 2008) with all undergraduate students participating in some form of compulsory community work. The New England Award utilises an ePortfolio to support students at the University of New England who wish to demonstrate that, through their commitment to extracurricular activities, they are developing a broad range of graduate attributes that will help them prepare for employment and citizenship (UNE, 2008).

However, it is vital that learners are not viewed as one homogenous group. There is a wide range of individual learners, characterised by differences in age, culture, gender, level of achievement to date, and familiarity with the online environment. As individual learners bring with them their own personality, attitudes, aptitudes and experiences, the context and capacity of individuals need to be acknowledged. The range of responses represented within the survey data of the project investigation highlights this, with student expectations about ePortfolios, and indeed their experiences with ePortfolios, ranging from enthusiastic and positive through to anxious and confused.

The key findings of the project indicate ePortfolio practice in Australian higher education is more common in coursework programs than in research programs, with two main uses of ePortfolio being the collection of learning activity evidence and reflection on the learning process. In the context of the learner, there are a number of issues associated with the development and use of ePortfolios that can contribute to the degree of success of initiatives in higher education. These issues include the collection of evidence and reflection, but attention also needs to be paid to the relevance to the learner, assessment and the ICT skills of learners.

5.3.3.1 Relevance

An essential aspect of successful implementation is relevance. Students need to see the ePortfolio as relevant and useful in order to be motivated to use it. Such motivation may be established internally or externally: students may be motivated to create an ePortfolio because it is a required piece of assessment (external motivation), or because they see the relevance of the ePortfolio for their own development or career (internal motivation). One interesting (although perhaps not surprising) observation has been that in the main, where motivation has been primarily internal, students engage with the ePortfolio more deeply and with greater enthusiasm than they do if motivation is primarily external (Harper et al., 2007). There may also be relevancy differences between different discipline areas; for example, students in creative industries may be ‘more naturally’ reflective, keen to utilise their ICT skills and eager to illustrate their creativity; health science students may focus more directly on the professional competencies required to attain and maintain their registered status (Newland, 2008).

The degree of relevancy to their academic work was stated as a concern for some of the student respondents in the PDP evaluation study at Anglia Ruskin University, with many students finding it ‘irrelevant and time-wasting’ (Cosh, 2008a). It has been found that, from the very outset of the process, students need to understand the rationale for the use of ePortfolios in their studies. It is essential that there is clear integration with the discipline of study, especially in terms of their comprehension of employability skills. Ideally, this should become thematic across the learning activities so that the rationale remains contextualised and supported as the semester progresses.

The two types of motivation are not necessarily mutually exclusive. At QUT it has been found that paramedic students are, through the mandatory requirement to submit their ePortfolio for assessment, extrinsically motivated to use it. At the same time, however, the ePortfolio is so comprehensively embedded within the course that students are able to clearly view it as a critical tool to support them in their job seeking activities. External motivation of assessment alone is unlikely to provide sufficient motivation for a meaningful engagement with the tool (Harper et al., 2007).
The current project, through the survey findings and the focus group discussions, has indicated that career planning activities make a strong contribution to the relevance of students developing and using ePortfolios. By establishing the connections between the discipline-specific graduate attributes and their own career goals, the students can create an authentic record of achievement accessible by those outside the institution. Students have reported an increase in confidence in being able to record and track achievements (Temple, Allan, & Temple, 2003).

Students seem most interested in the ways ePortfolios can flesh out their resumes, both before and after graduation. If internship interviewers or potential employers can see an online resume that includes views of a student’s actual work, that student may be more likely to obtain the position. Students also want to see where they are in their college career regarding requirements. ePortfolios can facilitate this. (Batson, 2002)

One of the key issues of this area is how an ePortfolio might best meet the needs of the prospective employer and of industry. At Royal Melbourne Institute of Technology (RMIT) School of Medicine a study was undertaken focusing on ‘prospective employers’ satisfaction with the structure and content of electronic portfolios as an aid in employment selection processes’ (Temple et al., 2003, p. 2). Focus group discussions with employers indicated that, generally, there was a low level of awareness about the role ePortfolios could play in recruitment, with concerns expressed about the overhead of time required to review individual ePortfolios. Temple et al. (2003) have recommended using a ‘two tiered’ system that orders the data in a hierarchy useful for employers’ needs, although studies have found that many students believe that the ePortfolio development process in itself supports them in applying for jobs and preparing for interviews: selecting and reviewing their skills and experiences, and reflecting on the relevance of the various skills and experiences to the specific selection criteria is found to be of immense benefit in the way it builds self-awareness and self-confidence. There is anecdotal evidence of graduating students who have used ePortfolios as part of the career planning process performing extremely well in interview situations. Nevertheless, the current project found that there was considerable work to be done with employer groups to raise the awareness and develop the understanding of employability skills, graduate attributes and the presentation of these through ePortfolios.

5.3.3.2 Reflection

The complex nature of learning makes it difficult to objectively measure precise learning outcomes. However, contemporary learning theories assert that effective learning requires the active participation and engagement of the learner, as ‘the engaged learner, one who records and interprets and evaluates his or her own learning, is the best learner’ (Yancey, 2001, p. 83). A dominant discourse is that of social constructivist learning theories, which stress the interactive nature of learning, rather than the passive reception of information from teachers and written texts (Jonassen, 1991). Reflective practice represents a holistic approach to learning, where learners construct their own experiences and continually reflect on them. The goal is to create engaged learners for whom learning has a personal significance (Andresen, Boud, & Cohen, 2000).

Constructivist learning models stress the importance of learners’ reflective thinking, not only as individuals but also in group learning contexts where collaborative reflection can enhance group learning. ‘Reflective discourse with peers and more experienced others can improve both self and group actions’ (Lee, 2005), so that collaborative reflection allows learners to compare their own thinking with that of the others in the group, with the opportunity to adjust their understanding and interpretation of the concepts and ideas being discussed. As some students will inevitably feel uncomfortable with, and resist, the process of externalising and sharing their thoughts with others, it is essential that there is sufficient scaffolding in place to support the student, for example, with reflective cues, questions that stimulate reflective thinking and examples of good reflective practice.

Many academics recommended the ‘light touch’ in the preliminary stages, for example, simply asking students to add a few reflective statements as they review their assignment work. Some disciplines, such as teaching and nursing, traditionally include a stronger reflective component, whereby students are asked to review the quality of the work they have produced, to focus on their strengths and the areas that may require further development. These contexts naturally offer a more receptive climate for acceptance of ePortfolio activities. Learners, as they collate their experiences and artefacts in the ePortfolio, have the opportunity to reflect on the meaning of their studies and achievements, as well as
on the comments and feedback they may have received from peers, family, teachers or mentors. When students study for a test, they can review their own work and read the instructor’s comments on their work. ePortfolios will make this easier to do, especially over multiple semesters’ (Batson, 2002). The ePortfolio might then help students articulate their personal and professional goals, and over time measure their progress towards the goals, affirm or indeed reconsider the goals, to direct or redirect their career plans accordingly. In the UK there is clear synergy between ePortfolio use and the Personal Development Profile (PDP) initiative. As the PDP allows the building up of a lifelong and lifewide picture of the learner, the relevance of the ePortfolio process to the ongoing needs of the learner is at the core of that learner’s motivation to engage with it (Kift et al., 2007).

The staff involved with the Business Advantage and Masters of Information Management courses at QUT have stressed the importance of a scaffolded approach to implementing the Student ePortfolio. Business Advantage is a voluntary, non-award program that provides QUT business students with extracurricular development opportunities aimed at increasing their professional competencies and improving their competitiveness in the workforce.

Once again, it is important to acknowledge that the ePortfolio is a process as well as a product, and therefore requires a focus on skill development as well as technical training. Careers and Employment staff have played a significant role in supporting academic staff by conducting training sessions designed to provide students with the technical and reflective skills required to create a portfolio. By teaching students the STAR L approach to reflective writing (Situation, Task, Action, Result and lessons Learnt), the scaffolding enables students to meaningfully and systematically reflect on their experiences. The training sessions also provide an opportunity to contextualise these reflective practices by demonstrating how these reflections, recorded in the ePortfolio, may be utilised in job-seeking activities such as selection criteria writing. The involvement of Careers and Employment staff is particularly effective as students appreciate their ‘real world’ credibility, which anchors the ePortfolio for the students as a tool to help them find employment, once again further stimulating the internal motivation for using it (Harper et al., 2007).

If the goal of the ePortfolio initiative is to develop reflective practice as an ongoing professional tool, it may be valuable to introduce the QUT Student ePortfolio (SeP) at the beginning of the course (as was initiated in the Masters of Information Management course in 2006), in the hope that earlier engagement, encouraged through regular workshops and reminders throughout the entire length of the course (three semesters full time), will better entrench ongoing reflective practice by the time of graduation.

5.3.3.3 Collection of evidence

Although the collection of evidence of learning and achievement might suggest a simple or reductionist process, in the ePortfolio context it is anything but. The learner collects evidence not just of their individual subject or course — this process can extend across all the learners’ studies and into their career, forming a list of achievements and skills accessible by others, including potential employers. In the Australian setting (as well as in the UK) this picture of the learner can be and has been applied to the university’s or professional discipline’s graduate attributes (Cooper & Love, 2007; Sargison, Tatham, & Apsitis, 2005).

At QUT, there are ten ‘employability skills’, drawn from the institution’s ‘Generic Graduate Capabilities’, which form the core principles of the QUT Student ePortfolio. These employability skills follow closely the Employability Skills Framework published by the Australian Chamber of Commerce and Industry (ACCI) and the Business Council of Australia (BCA). The ten skills have been designed, with the help of faculty staff, to also be compatible with specific professional association attribute listings (such as nursing and teaching) and specific faculty/school competency listings. This means that more detailed faculty, discipline or industry-specific skill descriptors may be mapped to each employability skill to provide the students with greater detail regarding what is required for their particular career path.

The employability skills encompass:

- communication
- teamwork
- problem solving/critical thinking
- life management/lifelong learning
• technical/professional/research
• managing/organising
• social/ethical responsibility
• leadership
• creativity/design
• initiative/enterprise.

An additional, undefined skill is also available for students to include any skill area they feel is not covered by the core ten. In developing their ePortfolio, students enter experiences and artefacts against the relevant skills. At the highest level, the ten employability skills are common across all disciplines, enabling students to carry the ePortfolio with them across combined degrees and various career or study changes. It has been argued that this approach provides students with clarity about their current and developing skill sets, enables them to identify skill deficits, and motivates them to acquire experience or training to fill identified gaps. The focus on employability also increases the relevance of the QUT Student ePortfolio to students as a tool beneficial to their careers beyond university (Harper et al., 2007).

Because the picture built up is by the learner himself or herself, the result may be considered ‘more authentic’ than a formal transcript of academic progress and qualifications (Gibson & Barrett, 2003). This also leads to a plurality of portfolios: ‘for a body of work by a learner there can be several portfolios or sharing collections, each aimed at a different audience for different purposes’ (Gibson & Barrett, 2003, p. 573). In the UK, ePortfolio practitioners refer to the ePortfolio as an individual's particular story that is revealed to a specific audience for an explicit purpose. Sutherland (2007) argues:

> In real life when we relate ourselves to others we draw upon particular evidence to enhance the story we are telling at that time. We rarely, if ever, expose all of our selves to any one person; some parts of our story are reserved only for our self. So it is with an eportfolio, it draws upon a much larger pool of evidence

(Sutherland, 2007, p. 2)

Sutherland has stressed that the individual's ePortfolio should therefore focus on a particular evidence-based story that draws on the ‘purposeful aggregation of digital items’ (2007, p. 2), which the individual may wish to allow others to view, comment on or collaborate in.

### 5.3.3.4 Assessment

One of the issues of concern to many academics is whether or not the ePortfolio is really assessable. It has been noted that assessment can play a role as an extrinsic motivator for student engagement with ePortfolios; that is, if it is assessable as part of their course work, rather than merely adding to the student workload, indeed sometimes being perceived as ‘extra work’ (Dixon, Dixon, & Pelliccione, 2005; Wetzel & Strudler, 2006). Where nominal marks are awarded for ePortfolio activities, students may express concern about the effort involved and the final mark obtained (Tosh, Light, Fleming, & Haywood, 2005; Abrami & Barrett, 2005; McMullan et al., 2003; Wade, Abrami, & Sclater, 2005). Some ePortfolio practitioners have noted student resistance when ePortfolios are solely used for assessment purposes, as this can reduce student commitment and buy-in to the process, as well as intrinsic motivation. If the ePortfolio becomes an institutional necessity, only required for the successful completion of a course, the opportunity for fostering a culture of lifelong learning through the development of the reflective and evaluative attributes of the student falters.

In the context of ePortfolios for academic staff, Teitel, Ricci and Coogan (1998) argue strongly that ‘Portfolio development should be a ‘bottom-up’, voluntary process that is owned by teachers and not used for evaluation purposes. The best way to kill it would be to make it mandatory or to use it for evaluation. Key benefits are lost if the reflective culture of professional development is replaced by a ‘culture of compliance’ where ‘teachers go through the motions of assembling materials according to a predated checklist’ (Teitel, Ricci, & Coggan, 1998, cited in Barrett & Wilkerson, 2004).

In 2004–2005, there was lively discussion at professional forums and on the e-lists about the issue of assessment of PDP: ‘can we, should we [assess], and what would we assess?’ (Atlay, 2005, p. 5). Most PDP developments in higher education in the UK have included the introduction of an ePortfolio. Distinctions were noted for the different contexts: within coursework programs, where the development of an ePortfolio may be integrated into the curriculum, ‘PDP may be assessed either explicitly or as part
of the assessment processes associated with normal assessment tasks’ (Atlay, 2005). Within research programs, on the other hand, PDP was more likely to be student-owned, associated with personal tutoring, and non-assessed.

The current project investigation revealed that, in the Australian setting, there was an even balance between formative and summative assessment of ePortfolios, with academic staff the primary assessors involved, although there was some evidence of reviewing by peers and mentors. The purpose of the ePortfolio (for example, supporting application, transition, learning and teaching, and supporting CPD) will inevitably impact on the assessment processes.

In his paper on portfolios, learning and assessment, Baume considers how the assessment of portfolios might achieve the virtues of being ‘valid, reliable, fair and economical’ (2002). Baume argues that portfolios have the potential to ‘reduce the fragmentation that can characterise some assessment methods, and allow the student to show larger, perhaps programme-level outcomes achieved’ (2002), presenting a range of student work completed progressively over time, offering both the student and the assessor a more coherent view of achievement, which may be both subject-specific and generic. Baume notes that the reliability of the assessment will depend on the context of the assessment, as well as the clarity of the tasks to be attempted by the student and the clarity of the assessment criteria and the marking scheme. Holistic grades are considered more appropriate than atomistic assessment systems. Opportunities for discussion between different assessors and with the students themselves can enhance the reliability too. In terms of fairness, the ways in which portfolios encompass work over an extended period of time and may represent the work the student cares most about may be valuable. Baume concludes that despite many challenges facing those assessing portfolios, a holistic and indeed collaborative approach involving the students themselves can help make the process more economical than it otherwise might be.

Some of the very real issues for academics were summarised as:

- How does it fit in with our existing approach to assessment?
- What are we assessing? Is it a product (e.g. a final portfolio, curriculum vitae, skills audit) or a process?
- Are we giving it a grade/mark – if so should we use our existing system or is it just pass/refer (or similar)?
- What weighting do we give it?
- How do we capture the outcome and record it on students’ transcripts?

(Atlay, 2005, p. 5)

Summative assessment can be considered one of the key facets of learning with ePortfolios. It has been argued that the ePortfolio can give learners a greater choice in how they engage with their learning program and how they present evidence of their learning through the collection of and reflection on the artefacts within the ePortfolio. Indeed, some students find this kind of assessment less intimidating than examinations (Beetham, 2006, p. 5). However, Newland (2008) argues that, where an ePortfolio is used to present evidence that specific learning outcomes, criteria or standards have been met, the ePortfolio system may need to be designed to ‘facilitate the organisation of material linked to each outcome and cross-referencing between items’ (CRA, n.d., p. 2).

In the context of professional accreditation, the professional body has the opportunity to evaluate the evidence of student achievement of discipline knowledge and generic capabilities presented in the ePortfolio, which, when compared with a simple list of grades attained may present a far richer and more meaningful picture of student learning outcomes across a program. The potential for ePortfolios to play a role in the assessment of employability skills in the vocational education and higher education sectors, along with the association policy issues, was discussed in the previous chapter (see Section 4.2.1).

The implications of ePortfolio assessment impact on both policy and practice. Atlay (2005) has presented a synopsis of the main arguments for and against assessment presented by the UK PDP community:
For:

- Assessing PDP says to students that this process is important.
- Assessing PDP says to staff that this process is important.
- If we want students to improve their reflective practice through PDP processes then we need to provide them with appropriate feedback via assessment – formative if not summative.
- Only the good students will engage with PDP processes unless it is assessed.
- If you don’t assess, you are wasting resources since the level of engagement will be minimal.
- PDP processes are widely used in ‘professional’ life and often as part of a personal assessment of an employee – students need to be prepared for this and the associated process of gathering and using feedback, and they need to know how to get the most out of such events. Assessing PDP can provide them with feedback.

Against:

- Students want to study (and be assessed on) their subject – not PDP.
- We assess enough anyway – and this may already include elements of PDP.
- PDP reflections are personal and hence not easily assessed.
- We want students to be honest in their PDP self-assessments – making it assessed would affect this. Students might give the answers they think the assessors are looking for.
- Assessment has resource implications which we would find difficult to meet.
- Some PDP approaches have no clear product (such as a portfolio) to assess.
- There is no common understanding of the criteria for assessment – so ensuring consistency of assessment would be difficult.
- PDP is about helping students to be independent learners – by making it part of the assessment process we are removing this element of independence.

(Atlay, 2005, p. 5)

In situations where ePortfolios are indeed assessed, academic staff have stressed the importance of timing the introduction of the ePortfolio appropriately within the curriculum. A balance needs to be struck between providing students with adequate sessions over a period of weeks in which to properly engage and practice with the ePortfolio, and the students’ desire for just-in-time information delivery, which can in fact significantly reduce their interest in the ePortfolio until the assessment item is due (Harper et al., 2007). Different disciplines may have quite different requirements in terms of assessing both creativity and competencies in an ePortfolio (Newland, 2008).

In the Australian context, the primary issues associated with assessment focus on the assessment of student learning, whereas there is a growing body of literature in the USA which looks specifically at institutional assessment issues. American academic administrators have acknowledged the value of ePortfolios through their potential for:

- Creating a system of tracking student work over time, in a single course, with students and faculty reflecting on it.
- Aggregating many students’ work in a particular course to see how the students as a whole are progressing toward learning goals.
- Assessing many courses in similar ways that are all part of one major and thus, by extension, assessing the entire program of study.
- Integrate courses with new methods, orienting syllabi and curricula around learning goals.
- Encourage continuity of student work from semester to semester in linked courses (History 101-102, English 101-102, or prerequisites in a major, etc.).
- Have a more fully informed and dynamic, constantly updated view of student progress in a program, which is very helpful in formative assessment.

(Batson, 2002)
Batson and Chen stress, however, that ‘administratively, eportfolio activities on campus should be coordinated by offices that place equal emphasis on accreditation/assessment and on teaching/learning’ (2008) to ensure that the intrinsic value of ePortfolios to student learning, and to the students themselves, is not misappropriated.

### 5.3.3.5 Web 2.0 and social networking

Current trends in education in Australia see technological change impacting on many different levels: pedagogy, curriculum, policy, infrastructure, organisation and governance at the local institution as well as at system levels (Owen & Moyle, 2008). The learning environment for university students is changing: web-based technologies are used to deliver learning materials to students, there is an ever-increasing convergence between curriculum materials and support materials such as library resources, via ejournals, eBooks and websites, and students are often required to submit their assessment online. The ePortfolio represents part of this continuum of change. The process of developing and maintaining an ePortfolio can play a role in helping learners to develop their ICT skills: to work with digital files and potentially a range of media can build the technical confidence of students. It is predicted that future students, ‘the class of 2013’, will be savvier as learners:

> Students’ education will be much more personalised with an emphasis on their own opinions and thoughts having equal weighting to those of their teachers. The use of technology has impacted upon teaching, learning, and the assessment of learning. There are new understandings about the nature of learning and students are far more aware of how ‘they learn best’. There is an increasing global dimension to life, learning and work. Students are far more aware of themselves, their strengths, and their weaknesses.

(Webster, 2008)

Digital Natives, or the Net Generation, are commonly said ‘to prefer receiving information quickly; be adept at processing information rapidly; prefer multi-tasking and non-linear access to information; have a low tolerance for lectures; prefer active rather than passive learning, and rely heavily on communications technologies to access information and to carry out social and professional interactions’ (Kennedy, Judd, Churchward, Gray, & Krause, 2008). However, the results of a study of incoming first year undergraduate students, undertaken in 2006, highlight the fact that incoming students are not homogenous in terms of their ICT skills. It appears that, on entering university, most students have a core set of technology-based skills (such as mobile phones, email and surfing the net) and that these skills ‘do not necessarily translate into sophisticated skills with other technologies or general information literacy’ (Kennedy et al., 2008). There were distinctions between international and domestic students, with international students tending to use ICT applications more (Kennedy et al., 2008). The 2006 data revealed that the reported use of social and Web 2.0 technologies (Facebook, MySpace, Flickr, YouTube, blogs etc.) was lower than anticipated. It was also found that less than one third of the student respondents felt that they needed social networking technologies or blogs to assist them with their studies.

Nevertheless, since the study was completed in 2006 interest in the use of Web 2.0 and social networking technologies has continued to grow, with many people using online tools to organise their lives and their thoughts. In the UK in mid 2007, it was reported that 65% of university students had a Facebook account, with the total number of users in the UK increasing from 500,000 to 3.5 million in a nine-month period (Joslin Rowe, 2007). ‘Web 2.0 tools tend to be relatively unstructured and are characterised by an ease of publishing, a high level of interaction, selfassigned [sic] semantics (tagging) and are often media rich’ (Cotterill, White, & Currant, 2007). Web 2.0 processes can be aligned with the social constructivist educational philosophies: students are able to use the tools, such as blogs, for reflective purposes, and they can establish or join collaborative communities where they can develop shared understandings about topics of interest and not be guided or bound by the educational institution itself.

Cotterill argues that there are three broad approaches to using Web 2.0 tools to support learning. These are (Cotterill et al., 2007):

- Using the tools ‘out there’ (Facebook, MySpace, Ning etc).
- Institutional hosting of social networking software (wikis etc).
- Integration of Web 2.0 features into VLEs, ePortfolios and other institutional systems.
These approaches are not necessarily mutually exclusive. Cotterill et al. warn, however, that ‘Web 2.0 doesn’t provide any scaffolding to prompt reflection or planning or structured outcomes/objectives’ (2007, p. 8), which means that, as a learning context, attention may need to be given to student facilitation, perhaps through peer mentoring.

There are indications, therefore, that student behaviours in this area have the potential to impact on ePortfolio development, which would, in turn, have further implications for educational policy. Batson and Chen (2008) present an overview of the pedagogical developments that have evolved in the past decade to encourage and support ePortfolio activity in education, which in many cases have resulted in enterprise-wide ePortfolio systems. While Web 2.0 tools can continue to encourage the processes of deeper learning and increasing self-awareness and self-confidence amongst learners, they are in fact forging ‘new pathways for how next generation eportfolios can be designed, accessed, shared, and presented’ (Waters, 2007).

Cotterill et al. (2007) advise against ignoring Web 2.0 technologies, as many students and staff are using social networking tools as a learning space, not just as a fun space. Nevertheless, ‘our “going there” might not always be welcomed — some students may want to maintain a distinction between their working and social lives’ (Cotterill et al., 2007, p. 8). Educational technologists have argued that overt attempts to emulate purely social networking systems have the potential of giving rise to the ‘creepy treehouse’ effect, defined in this instance as ‘repulsiveness arising from institutional mimicry or emulation of pre-existing community-driven environments or systems’ (cited in Stein, 2008). This occurs when an academic or teacher ‘forces those below him/her into social or quasi-social situations’ typified by mediums other than educational ones, such as networking sites (Stein, 2008).

At the Australian ePortfolio Symposium held in February 2008, Jonas argued that universities could not hope to compete directly or even keep up with the development of software dedicated to social networking applications, such as Facebook or MySpace. Jonas encouraged academic institutions to consider ICT solutions that would allow better opportunities for Web 2.0 applications to be implemented and enhanced within the university context (Jonas, 2008). Some commentators are indicating that Web 2.0 technologies have the potential to make ePortfolios ‘stickier’ for end users. The development of hybrid ePortfolio/social software applications may have inherent benefits that will help ‘to provide the “stickiness” needed to expand the true adoption rate [of ePortfolios], and get people to use the technology’ (Jafari, cited in Waters, 2007).

Cotterill and his team in the Medical School at the University of Newcastle, UK, have been involved in a project that attempts to ‘integrate blogging and community publishing facilities’ into an ePortfolio environment, ‘and directly link them to skills and learning outcomes’ (Cotterill et al., 2008, p. 91). The work is being evaluated as part of a regional ePortfolios project (EPICS-2) funded by JISC. Standard blog technology has been enhanced so that after blog entry creation, cross-referencing to skills/learning outcomes can be achieved. This draws on pre-specified categories which are program-specific; the blog entries can also be organised according to these categories. Students are therefore offered a sense of ‘structure related to purpose’, as opposed to the totally unstructured environment of Web 2.0 applications.

The issues associated with emerging evidence about employers accessing the social networking sites of candidates as part of the recruitment process to gain a better understanding of the candidate’s qualities are discussed by Grant, Richardson, Wilson and Boggis (2008), specifically in the context of medical professionals. The Royal College of General Practitioners in the UK has clear guidelines on ‘good medical practice’, which advises medical students to be aware ‘that their behaviour outside the clinical environment, including in their personal lives, may have an impact on their fitness to practice. Their behaviour must at all times justify the trust the public places in the medical profession’ (cited in Grant et al., 2008, p. 100).

In the ePortfolio environment, it is acknowledged that the learner has complete ownership over their ePortfolio, determining who sees what, when and for what purpose. Developments in the UK, with the DfES strategy ‘Harnessing knowledge: Transforming learning and children’s services’ (DfES, 2005) see the requirement for learners to have their ‘personalised learning space’. While the ePortfolio offers that personal space, it also offers the opportunity for discussion and collaboration, with the confidence to share thoughts and ideas with others. This represents a shift in pedagogical approaches, moving away from managing learning through the perspective of the teacher, to ‘encouraging and facilitating wider
social learning processes, encouraging and valuing both formal and informal learning and recognising the different contexts in which learning takes place’ (Attwell, 2007, p. 57). The learners themselves can develop the skills to manage their learning, which will mean a shift for educational institutions: rather than the learner engaging with the institutional provision of learning materials (for example, via the LMS), the institution will need to engage with the learner, ‘via the users’ choice of applications, locations, platforms’ (Fraser, 2007).

Web 2.0 technologies may be seen to offer ‘a quick solution to the far more difficult question of how institutions might engage with and support student-led participation’ (Fraser, 2007). Attwell suggests that this move to ‘dynamic participation’ on the part of the learner will have an impact on the role of educational institutions. While there will be an ongoing need for the provision of access to expertise, structured knowledge and qualifications, institutions will need to understand that they will no longer have ‘a monopoly on knowledge which is distributed through different communities of practice’ (Attwell, 2007, p. 58f.). Attwell states that ePortfolio practice may well contribute to an alternative view of education: ‘the real potential for ePortfolios is in the widening contexts in which learning is taking place — or is recognised to be taking place — and in the ability to bring together personal learning gained in multiple contexts’ (2007, p. 59).

In the context of the current policy environment in Australia that looks to widen access to educational opportunities and to achieve greater integration between vocational education and training and higher education with the goal of developing a highly skilled workforce that is committed to lifelong learning, the potential to transform educational settings through collaborative eLearning strategies should not be overlooked.

5.4 Summary

The issues to be considered by those planning to implement an ePortfolio project are varied and challenging. However, rather than being problematic, many of these issues present themselves as opportunities for the higher education sector. It can be argued that, even where there are tensions and concerns, there are often significant opportunities to innovate in unpredicted directions, at the personal, institutional and governmental levels, as well as to resolve sometimes longstanding concerns in a cooperative and forward looking way.

The proposed model for the Australian Higher Education Graduation Statement, discussed in Chapter 7, is an example of the wider context for ePortfolio articulation, development and integration in the Australian context. It offers an example of a driver for interoperability, since uniformity and standardisation are among the project’s key determinants. The rationale for this approach illuminates many key ePortfolio issues associated with information and data, such as privacy, integration, inclusion and authenticity. There are opportunities for decision makers within government and universities to engage with the policy direction required to develop and deliver education services that offer institution-wide and sector-wide cohesion and connectivity.

The dimensions of engaging students in their learning and working towards productive learning outcomes require a strong foundation of a learner-centred model of learning that offers flexibility and personalisation, and supports individual, social and collaborative processes. In practice, the teaching staff, with appropriate support from ICT and academic services, can utilise ePortfolios as an opportunity for cohesion in the eLearning environment. The successful implementation of ePortfolio projects can encompass, and potentially integrate, the broad spectrum of issues that are fundamental to learning and teaching, including academic policy, technology, pedagogy, organisational and cultural issues. The following chapter presents the current picture of ePortfolio practice in Australian higher education, including the different approaches, purposes, audiences and infrastructure.
6. NATIONAL AUDIT OF EPORTFOLIO PRACTICE

Goal 2: To document the types of portfolio, particularly ePortfolios, used in Australian higher education including the different approaches, purposes, audiences and infrastructure

6.1 Overview

Attention is frequently drawn to the distinction between ‘the portfolio as process’ and the ‘portfolio as product, or tool’; that is:

[the] difference between the portfolio as process (collection, selection, reflection, direction, presentation) and the portfolio as product (the notebook, the website, the CD-ROM or the DVD and the technological tools used to create the portfolio-as-product)

(Barrett, 2008)

An overview of these two aspects of ePortfolio practice is presented at the beginning of the report, in Chapter 1. The specific interpretation of the term ‘ePortfolio’ may depend on the perspective of the individual stakeholder. For example, those concerned about technical issues may think of the ePortfolio along the lines of the ‘tool’, as the software program itself with its associated functionality. Classroom teachers may think about the ePortfolio ‘process’, which encourages learners to engage in the process of knowledge construction through cycles of action learning supported by reflection, commentary and feedback. People who are more focused on student learning outcomes may consider the ePortfolio to be the aggregation of evidence of knowledge acquired and experience gained, which has been collected and reviewed over a period of time, perhaps along the lines of a digital repository. Those interested in the articulation of employability skills may think of the ePortfolio as a specific view or presentation of this collection of experiences for a specific audience. An understanding of ‘ePortfolio’ is therefore directly linked to the actual purpose in any given context.

The second goal of the Australian ePortfolio Project was to review and document the extent of ePortfolio practice in Australian higher education. Chapter 3 of the report provides an overview of the research methodologies utilised by the research team to collect the data: a series of surveys, focus groups and semi-structured interviews. The research subjects included the broad range of stakeholders involved in ePortfolio practice: individual students, academic staff and university managers, as well as representatives from the schools and vocational education sectors and a range of professional and employer groups. In the present chapter, the research findings are presented in detail. The data collection activities spanned the period from October 2007 to early July 2008: the national audit was undertaken in late 2007, while student surveys and interviews were conducted during the first semester of the 2008 academic year. The data therefore presents a picture of the state of play at that time. The theme of ePortfolios in education is, however, dynamic; the researchers are aware that the Australian ePortfolio Project had, in and of itself, increased the awareness of ePortfolios in general — it had also encouraged some academic staff to consider the possibility of introducing new projects at their own institutions.

The discussion in this chapter outlines the different understandings of the concept of ‘ePortfolio’, the extent of ePortfolio practice in Australian universities at the time of the study, the types of ePortfolio technology used in different settings and the diverse ways ePortfolios were being used in academic programs. Beyond these specific practice issues, the project sought to determine which staff or areas of the university held responsibility for project implementation and for the policy and strategy for ePortfolio activity. The study also considered the impact of ePortfolio use on students and staff, and the extent to which there had been any formal evaluation of the different projects. The focus group discussions were analysed to distill the main issues of concern to the participants. The key themes that emerged in this context were ePortfolios in relation to employability skills, to the student experience, the validity of ePortfolio content and the need for interoperability. The semi-structured interviews revealed further high level concerns associated with policy, funding and the need for coordination across the sectors.
The student surveys provided insights into the expectations of students prior to their engagement with ePortfolio in their course of study, as well as feedback concerning their actual experience of this engagement. Information was collected from a small group of ‘mature’ users. This enabled the project team to build a more complete picture of the student experience by looking at perceptions of the value and impact of the ePortfolio experience for these users. The chapter concludes with a review of the Australian ePortfolio Symposium activities.

6.2 The ePortfolio picture in Australian higher education

The principal data collection activities undertaken to fulfil Goal 2 of the current project encompassed the national audit survey of Australian universities, regional focus groups, semi-structured telephone interviews and student surveys. Through the audit survey questions, the project team sought to capture the information that would help develop a clearer understanding of the state of play: the different approaches in the use of ePortfolios, the various purposes of ePortfolios, the diverse audiences and the infrastructure in place. The research team was aware of the challenges they faced in the task to map ePortfolio practice in higher education, given the fact that ‘it sometimes seems that the e-portfolio landscape is changing and coming into (and out of) focus week by week’ (Stefani, Mason, & Pegler, 2007, p. 1).

Based on the researchers’ own understanding of the field, it was anticipated that there may be pockets of ePortfolio activity in different academic environments, with practitioners, administrators and technologists potentially having a piece of the turf, but that it was unlikely for there to be significant cohesion within or across institutions. As noted in Chapter 3, the process of identifying potential respondents in each university to ensure that the ‘right’ people were targeted for the survey would in itself prove challenging. The communications strategy chosen was to direct the initial communication to vice-chancellors and to then make contact with the key stakeholders such as deputy vice chancellors, deans and assistant deans, IT directors, learning support managers and careers and employment managers. One Australian university notified the research team that as there was no ePortfolio activity within the institution, they felt they could not participate in the audit. All remaining universities submitted a response to one or more of the questionnaires.

The diverse nature of stakeholders meant that the national audit of ePortfolio practice led to the development of three separate survey instruments to ensure the different perspectives were captured: a learning and teaching survey, which attracted 73 valid responses, a management survey with 28 valid responses, and a human resources survey with 12 valid responses. A total of 34 universities submitted responses to the learning and teaching survey, 23 to the management survey and 11 to the human resources survey. Multiple responses were received from most universities, with seven universities responding to all three survey instruments. For the purposes of presenting the findings from the survey, the primary lens used was the one that examines the data collected in the learning and teaching survey, which focuses on the experiences (and in some cases the plans) of academic staff and educational developers working with students in the area of ePortfolio practice. The subjects of the management survey were those involved in university governance, policy and administration. The data collected in this part of the audit revealed a strong sense that there was a growing awareness about ePortfolios, but the questions generally produced a high proportion of ‘don’t know’ and ‘not sure’ responses, supported by narrative comments to the open ended questions that emphasised that the respondents’ were offering their perceptions, rather than direct experiences of ePortfolios. As the focus of the human resources survey was the use of ePortfolios by academic and professional staff at an institution, the survey responses are reviewed separately.

The student voice was considered to be an important aspect of the study. It was felt that it would be valuable to capture both the views of students who were experienced or ‘mature’ users of ePortfolios, as well as of those who were being introduced to an ePortfolio for the first time. These ‘new’ students were asked to complete a pre-course expectations survey at the beginning of the semester, followed by a post-course experiences survey at the end of the semester. ‘Mature’ users were identified and invited to participate in a survey and a semi-structured interview. The institutional data was collected during the month of November 2007, while the student data was collected during the period March to early July 2008.
In the discussion that follows, the research findings are presented for the national audit, focusing on the respondents’ understanding of ePortfolio; the extent of ePortfolio practice at their institution; the ePortfolio platform in use; the range of ePortfolio use; and where the responsibilities for implementation, policy and strategic direction might lie. The drivers for and barriers to ePortfolio implementation are reviewed, as well as the perceived impact on students and staff. The findings from the national audit are amplified by comments from participants in the regional focus groups and the semi-structured interviews. The software tool Leximancer has been used to provide a graphical representation of some of the narrative comments captured in the research.

### 6.2.1 The understanding of ‘ePortfolio’

The opening question in the national audit asked respondents to briefly describe, in their own words, their understanding of the term ‘ePortfolio’. Where there were multiple responses from institutions, the individual nature of understandings of the concept were captured.

In the learning and teaching survey there were 73 responses. The most often reported understandings from this group were of ePortfolios as collections or tools for learning and reflection and as providing evidence of learning and development for a purpose.

* A digital collection of artifacts representing outcomes, activity and assessment arising from enrolment in a subject, course or university.

* An ePortfolio may also collect other work or valued contribution by the ePortfolio owner.

* A digital portfolio or ePortfolio is a collection of authentic and diverse evidence drawn from a larger digital archive to portray a story to represent what a person or group has have learned over time. It includes reflection, and is usually designed for presentation to one or more audiences for a particular purpose.

![Figure 6.1: Definitions of ePortfolio: Learning and teaching survey responses](image)

Figure 6.1 shows the key concepts found in the range of definitions of ‘ePortfolio’ provided by respondents in the learning and teaching survey. It reveals an interest in the concept of the ‘tool’, but — interestingly — with an awareness that the purpose needs to be considered. The key ideas underscore the importance of recording achievement and presenting artefacts that provide the evidence.

The understandings of respondents to the management survey were exemplified by the concept of collection and of using this collection for demonstration of learning and personal achievement, for assessment, and for managing learning.
A collection of electronic files/artefacts that can be used for assessment, reflection or showcasing achievements. This portfolio does not have to be bound by subjects studied; rather, it can store and present an overarching view of a student's work.

An electronic repository of information including skills, attributes, educational, work experience and personal achievements, to draw upon when applying for graduate employment in regards to constructing resumes, addressing selection criteria, participating in assessment centre activities and interviews including presentations. Also, for use in course assignment work and assessment activities.

Figure 6.2: Definitions of ePortfolio: Management survey responses

Figure 6.2 illustrates a more employability related concept of ePortfolios. The definitions refer to the idea of the ePortfolio as a repository of recorded activities that relate to the students’ development of skills, with a focus on work.

Respondents to the human resources survey also spoke of ePortfolios as collections, but more as a means of personal development, career progression and career planning.

A web based portfolio belonging to an individual. Can contain a myriad of things including blogs. Useful for career management if harnessed effectively.

I believe that an e-portfolio is an electronic learning record that provides actual evidence of achievement of an individual. It can be made up of many types of documents which combine to show an individual’s professional development over time.
Figure 6.3 highlights the key concepts captured in the human resources survey. These respondents consider the skills to be a central theme, but from the perspective of providing information about students’ learning and development of skills over a period of time.

To demonstrate the potentially different conceptual understandings of individual respondents from one single institution, one university — which submitted a total of seven responses to the three surveys, with respondents representing the job categories of academic staff, careers, eLearning, staff development and human resources — provided the following range of descriptions:

- A course-long virtual space where students can store any relevant files and information, and make the space look however they want it to, in order to have an portfolio of work that can be viewed by other students, lecturers or employers.
- An ePortfolio is an electronic space where artifacts can be collected and viewed by those invited to do so via Web access.
- An ICT-mediated record completed by a student of that student’s completion of various tasks which demonstrate specific competencies.
- An online area, that is assigned to specific user, where that user can collect electronic resources and artefacts for the purposes of reflection, personal and skills development, showcasing of material and assessment.
- E-Portfolio is an on-line receptacle for storing information. One way it can be used is for students to track their university study, results and skills gained. They can also use it to keep track of projects they undertake and other activities, employment etc and the skills they gain from them.
- A web based portfolio belonging to an individual. Can contain a myriad of things including blogs. Useful for career management if harnessed effectively.

The different descriptions highlight the range of vocabulary used by individual respondents, for example, ‘online’, ‘web’, ‘ICT-mediated’, and ‘virtual’ all encompass the fact that the portfolio is electronic or digital. In diverse ways, respondents consider factors of electronic ‘space’ or ‘area’, as well as scope for storage of data (record, receptacle, contain, collecting), and specific parameters such as time (course-long). Different types of content are mentioned: files, information, electronic resources and artefacts, blogs, results and skills. The purposes for the ePortfolio are varied: storing, keep track, reflection, personal development, skills development, showcasing of material, assessment, career management, demonstrate specific competencies and so forth.
Some of the respondents also consider the different audiences (students, lecturers or employers, or those invited [to view]). The key concepts extracted from the different definitions are presented in Figure 6.4.

![Figure 6.4: Definitions of ePortfolio: Respondents from University no. 1]

Another university, which had an institution-wide ePortfolio, submitted six responses to the three surveys, with respondents representing academic staff, careers, staff development and human resources. It was interesting to note that, when compared with the responses from the other university (which had pockets of ePortfolio activity) there was a greater degree of common language and understanding across the definitions presented:

- A facility which enables students to reflect on, record, store and showcase evidence of skills and competencies which are related to and impact on their lifelong education and work.
- A system to enable students to record, reflect on, catalogue, retrieve and present their experiences, activities, and things they produce both inside and outside of university life as evidence of the skills developed while at [this university] that contribute significantly to their lifelong learning and career development.
- An ePortfolio is a virtual or electronic container for a collection of artefacts of process and products which are managed so that the user can index, search and theorise about their creative production. It can be used in learning or as a reflective tool. The metaphor came from the creative arts use of Artist portfolios. The ePortfolio is broader than a textual reflective tool as it allows an artefact of the work to be present in the discourse about the work. ePortfolios allow the unfolding of an expressive narrative in media-rich contexts.
- Attached to an academic/tertiary education context the term ePortfolio describes for me an evolving electronic/online resource which acts to record, store and archive the artefacts of learning and reflection for an individual learner. An ePortfolio has the potential to demonstrate professional and personal growth, exemplify evidence based practice and provide a planning space for future professional development needs and experiences.
- Repository for documenting development of skills/capabilities; reflective tool; assist in development of CV
- An online collection of evidence, artefacts and stories relating to one’s professional career or capabilities.

These definitions encompass the multifaceted dimensions of an ePortfolio, which allows students to record, reflect, store, retrieve and present evidence of their capabilities and skills. The theme of reflection appears more strongly in this group of definitions, as illustrated in Figure 6.5.
The graphic illustration of the occurrence of central concepts using Leximancer software allows the perspectives of different stakeholders to be presented. The process also serves to highlight the importance of developing common language and understandings across an institution, across multiple institutions or across the sector as a whole.

### 6.2.2 The extent of ePortfolio practice

One of the initial questions in the learning and teaching and management surveys asked about extent of student use (that is, by coursework and/or by research students) and whether this might be university-wide, faculty or division wide, program (course) based or subject (unit) based. There were also options for ‘Not used’ and ‘Don’t know’. Questions were also asked about the breadth of use for academic staff portfolios and professional staff portfolios. Respondents were able to check all options that were relevant, so that multiple responses were possible. Respondents could be aware, for example, that in their specific context there were examples of ePortfolio activity in individual subjects, but also across a program and a faculty.

The learning and teaching survey results (n=73) indicated that by far the greatest use of ePortfolios was by coursework students, principally in subject-specific (n=35) or program-based (n=19) contexts. The occurrence of faculty-wide (n=4) or university-wide use (n=6) was rare.
Perceptions captured in the management survey also recorded an awareness of primary use being in the subject-specific context (n=11), rather than in program-based or faculty-wide contexts.

In terms of university-wide practice, one university reported extensive use across the institution, encompassing faculty-wide, program-wide and subject-specific applications. Another university indicated that it offered all students access to a web-based portfolio to support the development of core graduate attributes, while a third institution reported that it was working towards a similar goal.

**Case study: Institution-wide ePortfolio practice**

Queensland University of Technology (QUT) commenced the development of a proprietary ePortfolio system in 2003, as a building block within the university intranet. The initiative resulted from the collaborative work of the Division of Technology, Information and Learning Support and the Careers and Employment Office. Central to the design of the Student ePortfolio was the development of the Employability Skill Set, derived from both QUT and industry-identified graduate attributes, and developed in consultation with every QUT faculty. The schema includes life-wide perspectives of academic, work, community and personal achievements. Ongoing development has seen the graduate attributes mapped to a range of schema for professional standards, for example, education, nursing, business, law and engineering.

Over the past five years, there has been progressive take-up of ePortfolio practice across the different faculties and schools at QUT. In June 2008, more than 40,000 QUT students had developed their own ePortfolio. Table 6.1 provides an overview of the spectrum of ePortfolio practice across QUT, which highlights the diversity of use across different subjects and courses, as well as the opportunities for voluntary through to mandatory applications and the potential for formative and summative assessment activities (Harper et al., 2007).

**Table 6.1: Institution-wide ePortfolio practice (example for Queensland University of Technology)**

<table>
<thead>
<tr>
<th>Context</th>
<th>Timeframe</th>
<th>Activities</th>
<th>Purpose</th>
<th>Commitment</th>
<th>Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>University wide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serendipity</td>
<td>Any time of study</td>
<td>Independent discovery</td>
<td>Exploration</td>
<td>Voluntary</td>
<td>No</td>
</tr>
<tr>
<td>Orientation</td>
<td>0 week</td>
<td>Introduction to tool</td>
<td>Exploration</td>
<td>Voluntary</td>
<td>No</td>
</tr>
<tr>
<td>Careers &amp; Employment</td>
<td>Any time of study</td>
<td>Introduction to tool</td>
<td>Career planning</td>
<td>Recommended</td>
<td>No</td>
</tr>
<tr>
<td>Career mentoring</td>
<td>Final year</td>
<td>Introduction to tool</td>
<td>Recording experiences Reflection</td>
<td>Recommended</td>
<td>No</td>
</tr>
<tr>
<td>Undergraduate coursework</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td>First year</td>
<td>Introduction to tool; reflection writing; Record experiences and artefacts and release to tutor</td>
<td>Career planning; Development of a final body of evidence against nursing competencies for transition out</td>
<td>First year: Voluntary; Third year: Compulsory</td>
<td>First year: No; Third year: Yes</td>
</tr>
<tr>
<td></td>
<td>Third year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwifery double degree</td>
<td>Whole of course</td>
<td>Introduction to tool; enter experience and artefact; touchpoints throughout course culminating in presentation of ePortfolio</td>
<td>Making connections to curriculum; professional accreditation</td>
<td>Voluntary (strongly recommended as tool of choice)</td>
<td>Yes</td>
</tr>
<tr>
<td>Human Movement Studies</td>
<td>Third year</td>
<td>Introduction and application to career planning and job seeking</td>
<td>Career planning Transition to employment</td>
<td>Compulsory</td>
<td>Summative</td>
</tr>
<tr>
<td>Business Advantage</td>
<td>Extracurricular</td>
<td>Voluntary modules</td>
<td>Value-added skills development</td>
<td>Voluntary</td>
<td>No</td>
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</tr>
<tr>
<td><strong>Context</strong></td>
<td>Timeframe</td>
<td>Activities</td>
<td>Purpose</td>
<td>Commitment</td>
<td>Assessed</td>
</tr>
<tr>
<td>Law</td>
<td>First year</td>
<td>Introduction to tool; Virtual workplace</td>
<td>Core skills in legal research and writing Employment skills</td>
<td>Compulsory</td>
<td>Formative and summative</td>
</tr>
<tr>
<td></td>
<td>Second year</td>
<td></td>
<td></td>
<td>Voluntary</td>
<td>No</td>
</tr>
<tr>
<td>Accounting</td>
<td>First year</td>
<td>Introduction to tool; Record experience and artefact</td>
<td>Demonstrate link to professional development and connect to curriculum</td>
<td>Compulsory</td>
<td>Formative and summative</td>
</tr>
<tr>
<td></td>
<td>Second year</td>
<td></td>
<td></td>
<td>Voluntary</td>
<td>No</td>
</tr>
<tr>
<td>Management</td>
<td>First and third year</td>
<td>Introduction to tool; weekly reflection in ePortfolio; mentoring by third years</td>
<td>HRM units</td>
<td>Compulsory</td>
<td>Percentage awarded for completion for first years Part of larger assessment item for third years</td>
</tr>
<tr>
<td>Built Environment &amp; Engineering</td>
<td>WIL units</td>
<td>Introduction to tool; professional development; capabilities recognition</td>
<td>Develop evidence and recognition of skills</td>
<td>Compulsory</td>
<td>Yes</td>
</tr>
<tr>
<td>Psychology</td>
<td>First year</td>
<td>Introduction to tool; record experiences and artefacts and release to lecturer</td>
<td>Skill recognition; reflection</td>
<td>Compulsory</td>
<td>Yes</td>
</tr>
<tr>
<td>Education</td>
<td>Third year</td>
<td>Introduction to concepts; record experiences and artefacts</td>
<td>Attainment of professional standards</td>
<td>Voluntary</td>
<td>No</td>
</tr>
<tr>
<td>Education (planned for 2009)</td>
<td>Whole of course</td>
<td>Introduction to tool; recording of evidence</td>
<td>Connection to curriculum; building evidence through course and then final ePortfolio as evidence of competency against standards</td>
<td>Voluntary through to compulsory</td>
<td>Yes in final year</td>
</tr>
<tr>
<td><strong>Postgraduate coursework</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwifery</td>
<td>Whole of course</td>
<td>Embedded</td>
<td>Integration at key points of course</td>
<td>Voluntary</td>
<td>No</td>
</tr>
<tr>
<td>Nurse practitioner</td>
<td>Whole of course</td>
<td>Embedded</td>
<td>Body of evidence for accreditation</td>
<td>Compulsory</td>
<td>Yes</td>
</tr>
<tr>
<td>Paramedic</td>
<td>Whole of course</td>
<td>Embedded</td>
<td>Monitors skill development</td>
<td>Voluntary and then compulsory for final practicum</td>
<td>Graded</td>
</tr>
<tr>
<td>Library &amp; Information Management</td>
<td>Whole of course</td>
<td>Embedded</td>
<td>Recording of professional attributes; linking units of the course</td>
<td>Compulsory</td>
<td>Formative and summative</td>
</tr>
<tr>
<td><strong>Postgraduate research</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recording of experiences and skills; diarising development and activities</td>
<td>Recording of graduate attributes</td>
<td>Voluntary</td>
<td>No</td>
</tr>
<tr>
<td><strong>Staff</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional staff</td>
<td>Pilot</td>
<td>PP&amp;R Career planning</td>
<td>Voluntary but encouraged as tool of choice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic staff</td>
<td>Under development</td>
<td>Career probation; promotion pathways; excellence awards</td>
<td>Voluntary</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The national audit findings revealed that while ePortfolios were being introduced in many areas of academic coursework, they were not yet widely used in the research student context, with the majority of respondents reporting that they believed there was no use of ePortfolios by research students (n=17) or that they did not know (n=23) (Figure 6.7). Three university-wide occurrences reported in the learning and teaching survey included research students as well as coursework students. One example of ‘ePortfolio-related activity’ referred to the database of research publications maintained by academic staff and higher degree research students:

> I consider the recording of our publications to be a very specialized ePortfolio … However, there is no other ePortfolio offered enterprise wide.

Beyond this, there were responses that included one faculty-wide, seven course/program-based and four subject-specific occurrences of ePortfolio activity by cohorts of research students (Figure 6.7). Many respondents in the management survey (n=21) reported that there was actually no use (n=10) or that they did not know (n=5) of ePortfolio use by research students.

The situation in Australia can be contrasted with the United Kingdom, where the ‘Roberts Review’ focused attention on the perceived mismatch in the skills of higher degree research students and the skills required by employers (Roberts, 2002). The review stimulated considerable interest in the development of transferable skills for postgraduates. The UK Government provided additional funding to the Research Councils to deliver additional training, specifically through the Career Development and Transferable Skills Training (Roberts) Payments. The UK GRAD Programme (2008a) supports the academic sector to embed personal and professional skills development into research degree programs. A number of ePortfolio initiatives have been established under the ‘Roberts’ funding arrangements, to ensure that through Personal Development Planning (PDP) and Training Needs Analysis (TNA) activities postgraduate researchers are encouraged to record, review and reflect on their skills development (UK GRAD Programme, 2008b). PDP is also referred to in the Quality Assurance Agency’s (QAA) Code of practice for the quality of academic quality and standards in higher education (2004).
Case study: ePortfolio practice for postgraduate research students

The University of Melbourne has an ePortfolio project under development that aims to provide structured support for PhD candidates. It provides access to award-winning online transition programs for new research students, Postgraduate Essentials, at the same time as encouraging candidates to document and reflect upon the achievements and skill gains acquired throughout the course of their degree. The project, a collaboration between the Melbourne School of Graduate Research and Information Services at the University of Melbourne, has involved the testing and development of ePortfolio functionality through the implementation and evaluation of various Web 2.0 technologies and is due to be completed in January 2009. Existing courseware is being migrated into a Sakai environment so that the new platform will utilise a customised Open Source Portfolio.

The Postgraduate Essentials program is being redeveloped into a more comprehensive program called Graduate Research Essentials, with 15 modules covering different aspects of being a successful research student. Each module combines information delivery with opportunities for facilitated discussion, and encourages candidates to complete ‘tasks’, which are stored in a personal workspace and can be returned to and edited at will. In addition to the personal workspace there will be areas for collaborative authoring and document storage. Finally, the ‘Doctoral Attributes Workshop’ will enable reflection on and documentation of the ongoing skills development associated with research.

The purpose of the ePortfolio is to scaffold PhD student progress towards thesis completion, and to support them in the transition into employment. A secondary purpose is to assist in developing a public profile for new researchers and to support the development of peer and collegial support networks. Paula is presented as an example of a postgraduate student using the ePortfolio.

Paula is a new postgraduate student who finds out about the ePortfolio during her orientation. She logs on and explores the introductory modules — Strategies for a successful start to your PhD. Paula checks the discussion forums for each module to read about other people’s experiences. She realises that participants in the discussion have all established their online research profiles, so she sets up her profile to promote her academic interests and plans. She then adds her posts to the forum, including a question about interdisciplinary reading groups. After a few days, another student from her department replies with information about a newly-created reading group.

Paula discovers one particularly progressive academic has a research website and blog where their latest projects are described in detail. Paula sees that each blog post has a number of comments from research colleagues and students and wonders if she should enter into the debate. She returns to her ePortfolio, updates her research profile and makes it publicly available. She also uses it to begin a blog of her own. After a few months of posting about her research progress — as well as reading group reflections, conference preparations and activities — she decides she is confident enough to leave a succinct question on the blog of the senior academic. This sparks readers of that blog to engage with hers, and slowly she becomes a regular participant in this international academic community.

Beyond the coursework and research contexts, alternative examples of use of ePortfolios were reported by some respondents:

I am the manager of a program which recognizes and rewards personal and professional development through extra-curricular activity and community involvement concurrent with university study.
We have an ePortfolio which is used by students registered for this award to plan and document their achievements in order to apply for the award as well as to support graduate employment applications.

[At this university] we are introducing the use of ePortfolio to the TAFE Division both staff and students in 2008. In 2007 we have done some trial work with staff and students.

The University of New England offers students the opportunity to apply for the New England Award, focusing on extracurricular activities that are recorded and reflected upon in an ePortfolio.
Case study: ePortfolios for extra-curricular activity

The University of New England uses an ePortfolio (the unE-Portfolio) to support its New England Award (NEA). The NEA recognises student achievement through extracurricular activity. The primary objective of the award is the enhancement of the UNE Graduate Attributes and other personal and professional skills through involvement in local and university communities, voluntary work, leadership activities and extracurricular learning and training. Participating students gather evidence of their skill development through a variety of activities that fall into the categories of extracurricular learning or training, professional development and contribution to the university or wider community. The different activities are weighted with a number of points, which are able to be aggregated within the ePortfolio. Students are presented with their New England Awards at graduation.

The unE-Portfolio is an online tool that allows students to record their personal details, their extracurricular achievements, the personal and professional skills they have developed and other highlights of their university experience.

> Your unE-Portfolio is like a diary. It is a convenient way to record and reflect on your achievements during your time at university and it will be this type of information that will allow you to market your skills and abilities to future employers.

For the purpose of the NEA students may enter NEA-approved activities into their portfolio and also propose new activities. Students not engaged in the NEA are also able to use the unE-Portfolio.

UNE students are encouraged to use the unE-Portfolio:

- To record their experiences.
- As a tool when preparing CVs and job applications.
- To focus on the UNE Graduate Attributes (communication skills, global perspective, information literacy, lifelong learning, problem solving, social responsibility and teamwork).
- To plan for the future.

> From the time you enter university, you are on a career development path and the unE-Portfolio is a great way to help you plan your future directions. In general, you can take control of your career planning by following three easy steps:
> Exploring … what do I want to do in my life?
> Experiencing … a variety of potential career options
> Targeting … where do I want to go and how do I get there?

The unE-Portfolio was a joint development project of the New England Award Manager and UNE Careers Advisers: www.une.edu.au/nea.

In terms of use by university staff, in the learning and teaching survey the level of reported use of ePortfolios by academic staff was higher (n=21) than that by professional staff (n=8). However, an equal number of respondents (n=21) also stated that they were aware that there was, at that time, no use by academic staff nor by professional staff, although it was also clear that a significant number of respondents were not really sure about the actual situation at their institution. This lack of certainty was more prevalent in the context of professional staff use (n=23), compared with academic staff use (n=14). In the management survey, only five people indicated that they knew of the use of ePortfolios by academic staff; a further six knew that they were not used and 10 people reported that they did not know. There were only three instances of use by professional staff, with seven respondents reporting ePortfolios were not used in that context and 11 people did not know. While the human resources survey attracted a total of 20 returns, more than half the questionnaires were only partially completed. Of the responses received, there were three to report that academic staff were using ePortfolios, five responses to report that ePortfolios were not used by academic staff and four people did not know. In the professional staff context, there were two responses to report activity, eight responses to indicate no use and one person did not know.

Comments from respondents presented a mixed picture:

> ePortfolio is used in [one] centre by both academic and general staff for their MFP (management for performance).
There is no formal need for staff to have a portfolio at our uni. Some staff may organise their CV and associated documents in electronic folders.

ePortfolio only recently established [at this university], will be rolled out to university community over next 2 years. We hope to use it as a staff resource as well.

In terms of breadth of ePortfolio use, the surveys offered respondents the opportunity to select the option of ‘Other’. Thirty responses for ‘Other’ were recorded in the learning and teaching survey, with the central message being that there were investigations into, plans for and imminent implementation of ePortfolios in many institutions, although there were also some comments to indicate that there had been some initial exploratory initiatives that were no longer operational. Other comments highlighted the ad hoc, patchwork pattern of ePortfolio practice:

Breadth of use is difficult to judge as while we make the tools of creating ePortfolios available to all, we don’t have the tools to audit use.

Early days, very limited use (in a formative sense), but growing awareness.

We are currently running pilot projects re the use of ePortfolios; hence usage is limited at this time.

The common occurrence of phrases such as ‘we currently don’t …’, ‘we don’t as yet …’, ‘planning to trial …’, as well as statements like ‘I’m not sure …’ and ‘I can’t be certain …’ underscored the present situation in Australian universities: there are many small pockets of ePortfolio activity — generally subject or unit based — but at this stage much of the work tends to be exploratory.

### 6.2.3 The type of ePortfolio technology used

A subsequent survey question sought to discover the type of technology that was being used for ePortfolios — with the option to provide more than one response to the question — to capture the range of activities and tools potentially in place within the different universities. The learning and teaching survey recorded a null response of 39, which reflected the high level of investigation and exploration in individual institutions. Respondents revealed, however, that there was indeed considerable diversity of practice, with the largest number recorded for the learning management system (LMS) or virtual learning environment (VLE) (n=27), but an even distribution of alternative technologies such as blogs and wikis, student web pages and paper-based systems was recorded (Figure 6.8). Similar ratios were noted in the responses to the management survey and the human resources survey, both of which had a high null response rate (n=19 and n=13 respectively).

![Figure 6.8: Type of technology used: Learning and teaching survey responses](image)

The comments noted by respondents under ‘Other’ provided further details about particular LMS/VLE systems (with Blackboard, WebCT and Vista specifically named), about particular ePortfolio systems in place (for example, Sakai and OSPI, CareerHub, Mahara, WordPress) or home-grown platforms.
More generically, HTML programs such as Dreamweaver or MS FrontPage, or PowerPoint and Word were also utilised. There was emerging interest in the Web 2.0 tools such as blogs and wikis, YouTube, Flickr and MySpace.

Further comments from respondents indicated that there was often an element of choice for students within the ePortfolio activity, as well as reporting that considerable experimentation taking place within the institution, with various systems being trialled, or that investigations were still continuing.

*In post-graduate subject I teach I leave the format or application that the student uses to them, they decide - sometimes it becomes one of their learning goals. Undergraduates usually create a webpage. Next year we will have an online environment and that may mean the added choice of a template.*

Specific software yet to be decided, but have identified CareerHub, Pebble Pad and WebCT as potentials.

*We are piloting the use of OSP within the Sakai LMS. Individual subjects/courses use different formats – Dreamweaver/MSFrontpage, paper-based, Powerpoint, etc. Mostly paper-based.*

*We have trialled a number of purpose built back ends. We now work with Blog’s and Web 2.0 free sites such as YouTube, Flickr and MySpace.*

### Case study: Diversity of ePortfolio practice across an institution

An example of evolving practice that sees different ePortfolio systems being used in different contexts is presented for the University of Wollongong (UOW).

At UOW, the concept of the ePortfolio is not just as a tool, but as a process of engaging students in activities that allow them to identify, reflect on and maintain evidence of their developing graduate qualities and professional skills and to justify and explain their skills and qualities to others. UOW has been strategically exploring electronic portfolios since 2002 via two internally funded project grants. In December 2006 it was proposed to make an ePortfolio system available university-wide, based on ePortfolio trials conducted in 2002–2003 and 2006 (Lambert & Corrin, 2007). ePortfolio tools and tasks have been useful to enable rich learning dialogues about the university’s graduate qualities and discipline-based professional skills, as well as meet particular learning outcomes in courses, particularly those with work-integrated learning components (Lambert, 2007).

A growing number of different student cohorts and staff are engaging in this process and major courses such as Certificate of Global Workplace Practice are using ePortfolio. Support is provided by the faculty’s academic and professional staff, who are in turn supported by a Project Manager and broadly by their peers in an ePortfolio Reference Group.

A mixture of common tools and other specialist tools (iWebfolio for Staff, Clinical Log for Graduate School of Medicine, and a ‘home-grown’ product for the Faculty of Education) are currently meeting demand for supporting various ePortfolio tasks on campus. However, as usage matures from subject to cross-course, the demand for a comprehensive online specialist tool is anticipated to increase; therefore, trials of specialist ePortfolio tools will continue in order to meet the emerging needs of eLearning at UOW.

Table 6.2 illustrates the growing number of cohorts involved in ePortfolio practice at UOW.

### Table 6.2: Diversity of ePortfolio practice across an institution (example for University of Wollongong)

<table>
<thead>
<tr>
<th>Context</th>
<th>Tool</th>
<th>Timeframe</th>
<th>Activities</th>
<th>Purpose</th>
<th>Commitment</th>
<th>Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services Marketing</td>
<td>Vista quiz tool</td>
<td>Second</td>
<td>Skills check quiz Group project final report</td>
<td>Increased awareness of professional skills</td>
<td>Compulsory</td>
<td>Group task Graded, referencing ePortfolio</td>
</tr>
<tr>
<td>Cinema in Australia</td>
<td>Blackboard Portfolio for Vista</td>
<td>Second</td>
<td>Reflective participation in online forum</td>
<td>Professional skills and career development</td>
<td>Optional, but encouraged</td>
<td>Not assessed</td>
</tr>
<tr>
<td>Mechanical Engineering Design</td>
<td>Blackboard Portfolio for Vista</td>
<td>Third</td>
<td>Learning log Final project presentation</td>
<td>Increased awareness of professional skills</td>
<td>Compulsory</td>
<td>Group task graded, but not the entire ePortfolio</td>
</tr>
<tr>
<td>Context</td>
<td>Tool</td>
<td>Timeframe</td>
<td>Activities</td>
<td>Purpose</td>
<td>Commitment</td>
<td>Assessed</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------------------</td>
<td>----------------</td>
<td>-------------------------------------------</td>
<td>----------------------------------------------</td>
<td>------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Arts Internship</td>
<td>Blackboard Portfolio for Vista Or MS Word</td>
<td>Third year</td>
<td>Online reflective journal Internship report</td>
<td>Reflection on skills development during work placement</td>
<td>Compulsory</td>
<td>ePortfolio graded, option for formative feedback</td>
</tr>
<tr>
<td>Environmental Science &amp; Systems</td>
<td>Blackboard Portfolio for Vista</td>
<td>Third year and Honours</td>
<td>Reflective report</td>
<td>Reflection on development professional skills at UoW</td>
<td>Compulsory</td>
<td>Group task Graded, referencing ePortfolio</td>
</tr>
<tr>
<td>Education</td>
<td>Specialist ePortfolio tool (emLab/Faculty)</td>
<td>U/G Whole of course</td>
<td>Collection of evidence and reflecting on professional skills development</td>
<td>Attainment of professional standards</td>
<td>Compulsory</td>
<td>TBC</td>
</tr>
<tr>
<td>Nursing Reflective Practice</td>
<td>Blackboard Portfolio for Vista</td>
<td>Postgraduate coursework</td>
<td>Reflection on specific professional skills</td>
<td>Attainment of professional standards</td>
<td>Optional</td>
<td>Not assessed</td>
</tr>
<tr>
<td>Practical legal training</td>
<td>Blackboard Portfolio for Vista</td>
<td>Postgraduate coursework</td>
<td>Development and assessment of file management skills</td>
<td>Electronic file management</td>
<td>Compulsory</td>
<td>Summative</td>
</tr>
<tr>
<td>Graduate School of Medicine</td>
<td>Blackboard Portfolio for Vista And Clinical log tool</td>
<td>Postgraduate coursework: clinical placements</td>
<td>Reflection on clinical experiences Identifying further learning needs</td>
<td>Attainment of professional standards</td>
<td>Compulsory</td>
<td>TBC</td>
</tr>
<tr>
<td>Global Workplace Practice</td>
<td>Structured document using MS Word</td>
<td>International postgraduate coursework</td>
<td>Preparation for job applications and interviews</td>
<td>Employability skills Job applications</td>
<td>Compulsory</td>
<td>ePortfolio graded and referenced by other assessments</td>
</tr>
<tr>
<td>Careers Service</td>
<td>Journal tool in Blackboard Portfolio for Vista</td>
<td>Leadership program Careers service internship</td>
<td>Reflection on skills development through the programs</td>
<td>Employability skills</td>
<td>Voluntary</td>
<td>Not assessed, used formatively in workshops</td>
</tr>
<tr>
<td>Staff ePortfolio</td>
<td>iWebfolio and MS Excel</td>
<td>Pilot Introductory workshops</td>
<td>Collection of and reflection on career evidence</td>
<td>Development of career goals and academic development</td>
<td>Voluntary</td>
<td>No</td>
</tr>
</tbody>
</table>

As a contrast, one example was given of a movement away from textual representation for multimedia musicians ‘to solve our own discipline problems with managing and evaluating non text media artefacts’. The interface of the ePortfolio resembles a blog, using a variety of Web 2.0 plug-ins (YouTube, Flickr, Facebook etc.) to enable arts-based practitioners to pull data from external sites into one ‘showcase’ online portfolio. As the ePortfolio integrates with del.icio.us and other tools, folksonomy processes are supported through tagging and there is some capacity for peer interaction, for example, comments on posts.

The data collected in the national audit indicated that there was considerable diversity of practice across the sector. It should be noted that the Australian ePortfolio Project has, in itself, raised awareness of and interest in ePortfolio software generally, for example, with the ePortfolio Showcase held in conjunction with the Australian ePortfolio Symposium in February, where developers gave demonstrations of both open source products (Sakai, OSPI, Mahara) and commercial products (PebblePad, Desire2Learn, CareerHub and Blackboard). A poll of Symposium delegates, conducted using the Keepad audience response system, revealed that while about one half of symposium delegates represented academic institutions where students were already using ePortfolios, only one quarter were actually using ePortfolios in their own teaching (or were a user themselves, for example, by having their own teaching portfolio). Almost one third of symposium delegates indicated that ePortfolios were not yet in use at their institution. Delegates emphasised that they had a strong interest in learning about the types of ePortfolio tools available in Australia and internationally.
6.2.4 The range of use of ePortfolios

Survey respondents were asked to indicate the use made of the ePortfolio in their immediate context, with options as to whether it was used as part of formative assessment and/or summative assessment; whether the use of the ePortfolio was encouraged and supported by academic staff or if it was an optional tool available to students, so independent of a program of study; whether use of the ePortfolio was about reflecting on learning or collecting examples of evidence of learning; and whether course time was allocated for students to undertake ePortfolio activities. There was also the option of ‘Other’ to allow respondents to add their own comments. Multiple responses were allowed (Figure 6.9).

In the learning and teaching survey, a null response was recorded for 44 submissions. The highest response rate was received for the use of ePortfolios by students to collect evidence of learning (n=42), with a strong response for reflecting on learning (n=33). There was a strong correlation between the two dimensions: when ePortfolios were used for collecting evidence on learning it was highly likely that there would also be the need to reflect on learning. However, the common pattern was that ePortfolios were used in multiple ways, with just two respondents indicating that the ePortfolio was only about collecting evidence of learning, three respondents reporting that the ePortfolio was only used as an optional tool, independent of a program of study, and one respondent said it was only used for formative assessment. The model for the students’ use of the ePortfolio being encouraged and supported by academic staff was more common (n=28) than it being optional for students (n=17), with 26 respondents reporting that time was allocated in the study program for students to undertake ePortfolio activities. There was a fairly even distribution of the ePortfolio being used as part of formative assessment (n=32) and summative assessment (n=33).

It was noted that slightly different perceptions amongst the academic managers in their understanding of the use made of ePortfolios at their institutions. There was a sense that there was a balance between students using the ePortfolio to reflect on learning (n=13) and to collect evidence of learning (n=13). It was felt that the ePortfolio was used both as part of formative assessment (n=9) and summative assessment (n=7), or both (n=5). The optional model was believed to be more common (n=8) than the supported model (n=6).

In the poll of delegates taken using the Keepad audience response system during the Australian ePortfolio Symposium in February 2008, 30% reported already using ePortfolios for formative or summative assessment, with a further 40% planning to do so in the future. The use of ePortfolios as an optional tool for students, independent of study programs, was very low, with only 12% reporting that was currently the case, but a further 28% indicating that this was likely to be the case in future. On the other hand, 27% of symposium delegates indicated that the use of the ePortfolio was encouraged and supported by teaching staff, with course/program time allocated for students to undertake ePortfolio...
activities, with a further 33% planning for this to be the situation in the future. Some of the narrative comments provided by the respondents served to amplify the breadth of utilisation of ePortfolios:

Although I have selected the ‘assessment’ elements above, the following explains further. In [this postgraduate course] the demonstration of professional practice capability is assessed in the foundation unit (40%). Students are encouraged to use the ePortfolio to build their professional practice ‘evidence’ for the foundation unit assessment and they are expected to continue to add materials and reflections throughout the 6 core units of the masters program and submit their ePortfolio at the end of the program. In this sense it is not the ePortfolio which is being assessed, but the evidence of their professional practice capabilities. The ePortfolio is a valuable ‘space’ to retain their records and reflections as part of their evolving learning experiences.

ePortfolio is a community of practice part of an extended real world community for music research students. It should allow personal, social and cultural interaction.

The surveys sought to determine which types of learning activities were reviewed or assessed as part of the ePortfolio process: artefacts in the ePortfolio, reflection on the process of creating the ePortfolio, the ePortfolio as a final product, or indeed, whether the ePortfolio was not reviewed or assessed. A further question then sought to learn more about the context of the review or assessment: who might be involved in the review or assessment process — students or peers, teachers/tutors, external specialists, as part of a presentation or event, or as part of career planning or mentoring. Multiple responses were possible. There was a high level of null responses to these questions: 51 to the question about what activities were reviewed and assessed, and 55 to the question about the context of review or assessment.

The responses received indicated that review or assessment would most likely focus on the artefacts in the ePortfolio (n=30) and the ePortfolio as final product (n=29), although reflection on the process of creating the ePortfolio was also important (n=21) (Figure 6.10). Fourteen respondents reported that all three elements (that is, artefacts, reflection and the ePortfolio as the final product) were reviewed or assessed. Ten people indicated that the ePortfolio activities were not reviewed. The responses received under ‘Other’ (n=18) stated clearly that there was no review or assessment activity to date, although there were indication of plans for the future (n=7).

No formal assessment yet, but assessment of it is being worked out in a new course.
We anticipate that this may change as our use of the ePortfolio evolves.
Different things happen in different faculties

![Figure 6.10: Review or assessment of ePortfolios: Learning and teaching survey responses](image)

In terms of the context for the review or assessment (Figure 6.11), teachers or tutors were most likely to be involved (n=36), either independently (n=10) or as one of several review strategies (n=26). The review of ePortfolio work in the context of career planning or mentoring was noted as being important (n=17), although this was always in conjunction with other review strategies (teachers, external specialists etc.). Student and peer review (n=13) was also undertaken in conjunction with other approaches.
Two respondents reported that the assessment was only conducted by external specialists (that is, professional bodies).

Figure 6.11: Context of review or assessment of ePortfolios: Learning and teaching survey responses

The responses to the option of ‘Other’ (n=16) once again highlighted the emergent nature of ePortfolio practice in many institutions, with decisions ‘not yet’ made.

- Not formalised yet in a new course.
- Not yet applicable in any serious sense.
- Part of our problem is it is not reviewed or assessed!

Respondents were asked to indicate the type of guidance or support provided to the users of the ePortfolios in their given context. Here again, the level of null responses was high (n=50). The options offered included guidance on the purpose of the system and on how to use the system (either online or handouts), tutorial programs, online tutors or mentors, personal tutor support, IT support, IT developer support (for future development), electronic diagnostic tools and electronic skills development tools. Respondents were also able to specify additional forms of guidance and support. It was found that online support was more common than printed handouts, especially to offer guidance about the purpose of the system (n=31) and how to use it (n=31). The selected options showed that tutorial programs (n=20), tutor support (n=21) and IT support (n=23) were readily available, although electronic diagnostic tools (n=2) and IT developer support were less common (n=10). However, it was important to note that multiple channels of support were offered, with most combinations of the list of options recorded. In the ‘Other’ responses (n=23), however, a high degree of uncertainty was recorded: ‘not sure yet’, ‘not yet decided’ or ‘not yet in place’ (although change was in the air for many institutions):

- As yet nothing but once the tool has been developed there will be online help resources as well as staff development to assist academics to help students.
- Early adopters only at this time. Improving support anticipated over the next 12 months.
- Once again — in the future!

The refrain of ‘it’s not happening yet, but we are thinking about it’ was voiced clearly.

In the human resources survey, the question regarding the actual use of the ePortfolio was answered by only four people. It was notable that responses indicated that ePortfolios were not part of any formal staff development program and that support was not offered to staff to use the ePortfolio. There was a fairly even spread across the range of other responses: the ePortfolio was available as an optional tool for staff, it was about staff becoming reflective practitioners and it was about collecting examples of evidence of work practice. One respondent commented on the possible future direction for staff ePortfolios at her institution where there was a pilot project for promotion applications.
6.2.5 **Responsibilities for ePortfolio practice**

The survey sought to determine the areas of responsibility for ePortfolio practice within higher education institutions, with questions focusing on implementation, policy and strategic direction.

6.2.5.1 **ePortfolio implementation**

Responsibility for the introduction and implementation of the ePortfolio varied across the different institutions (Figure 6.12). A decentralised model, that is, where the ePortfolio was implemented by the faculty (n=23) or the individual teaching unit (n=29), was the most common, with a centralised model occurring to a lesser extent, for example, coordinated by divisions such as careers and employment (n=12), IT services (n=13) and learning and teaching support services (n=5). Respondents in the management survey reported a proportionally higher incidence of centralised responsibility for implementation, specifically careers and employment and IT services, with a general sense that responsibility did not commonly lie with learning and teaching support services, faculties or teaching units in their own right. Only one external agency was reported as driving the implementation, which was associated with professional accreditation requirements (although it was noted that some work had been undertaken by contractors working in another case involving an open source application).

Most importantly, there was a strong element of collaboration, so that the responses did not reflect the sole responsibility of individual divisions, but rather joint activity shared by a number of players, for example, combined committees of academic staff, learning support and IT services, or partnerships between academic staff and eLearning. One interesting case was noted where implementation was linked to the national ePortfolio initiative being run in the vocational education sector.

![Figure 6.12: Responsibility for ePortfolio implementation: Learning and teaching survey responses](image)

6.2.5.2 **ePortfolio policy**

The picture for the responsibility for ePortfolio policy was, however, rather different. It was acknowledged by respondents that, in the majority of cases, there was as yet no formal policy in the institutions, or that it was early days in the process (with policies only just being developed). Figure 6.13 highlights the feeling captured in the learning and teaching survey that responsibility of ePortfolio policy was being predominantly driven by the learning and teaching support areas of the universities, although often in a collaborative way with academic staff, under the overarching framework of DVC (Academic) and university Teaching and Learning Committees. While areas such as IT services and careers and employment were often directly involved in the implementation of ePortfolios, their role in policy matters was reduced.
Once again, a degree of uncertainty was noted in the respondents’ comments: ‘it is likely to be led …’, ‘I am guessing …’, ‘None that I know of …’. Some future directions were referred to, with link to the eLearning agenda:

\[
\text{We have recently recommended that the Learning and Teaching Committee be responsible for such matters. The L&T Committee will be advised by the Committee for IT Planning around academic priorities.}
\]

\[
\text{At this time we have no governing policy re ePortfolios, but no doubt the governance would appear under the policy relating to the learning management system.}
\]

\[
\text{None at this stage, but it is likely to be the eLearning Sub-Committee, the Teaching and Learning Committee and the IT Structure and Policy Planning Committee.}
\]

Respondents in the management survey stressed the role of learning and teaching support services in leading policy development.

### 6.2.5.3 ePortfolio strategy

In terms of the responsibility for strategic direction for ePortfolio activity in the different institutions (Figure 6.14), the respondents in the learning and teaching survey clearly recognised the role of the central learning and teaching divisions (n=14) as driving future strategy, while respondents of the management survey indicated a proportionally higher level of responsibility to DVCs. In the learning and teaching survey, there was a sense that the Assistant Deans (T&L) played a role in the strategic direction within the faculties, indicating that there needed to be a clear relationship with student learning activities.

\[
\text{DVC(A) but the faculties defining at degree and program level would be the primary inputs, as well as the central strategic aims.}
\]

[The Learning and Teaching area] is working with Faculties around the strategic use of ePortfolios. Division of Student Services will work with students on general ePortfolios.
Overall, however, joint responsibility was again attributed to committees led by DVCs, involving learning development, academic staff and supporting areas such as careers and IT:

*Joint project with an umbrella team that has representatives from the IT, teaching and learning area, school, learning adviser and career management areas.*

Nevertheless, there were a number of comments (around one quarter of respondents in both the learning and teaching survey and the management survey) that reported that there was as yet no strategic direction in their respective contexts:

*There is no strong central strategic direction on the use of ePortfolios. Strategic direction is determined locally and related to T&L goals generally. There is a small working group within [the Learning and Teaching area] which I am part of, but I don’t think it has much impact across the university generally.*

*No strategic direction provided – used on a very ad hoc basis.*

*At this time there is no university direction regarding ePortfolios. Projects trialling ePortfolio have been at the discretion of the faculty.*

### 6.2.6 The drivers for and barriers to ePortfolio implementation

In the Learning and Teaching survey, a question was posed about the degree of importance attributed by the respondents to certain ‘drivers’ or ‘factors’ that may have contributed to the implementation of the ePortfolio at their institution. Using a 4-point Likert scale to indicate ‘Very important’, ‘Important’, ‘Not very important’ or ‘Not applicable’, the factors listed encompassed:

- entry into courses/programs
- discipline-specific/professional skills requirements
- improve transparency of learning outcomes
- practicum/work placement requirements
- integrative learning
- improved reflective learning
- better/varied assessment
- recognition of prior learning.

The highest scores recorded for ‘Very important’ related to the improvement of reflective learning and the discipline-specific/professional skills requirements (Figure 6.15). Integrative learning and improved assessment were regarded by more respondents as ‘Important’ rather then ‘Very important’, while the least important or not applicable factors were associated with the entry into courses and the recognition of prior learning.
When the responses for ‘Very important’ and ‘Important’ were aggregated, the factor of professional skills scored the highest (n=51), closely followed by reflective learning (n=47). The scores for other factors were close: integrative learning (n=45), improved transparency of learning outcomes (n=43), better assessment (n=42) and practicum or work placement (n=41). The importance of course entry as a factor for implementation was far lower (n=17), along with recognition of prior learning (n=25).

Delegates at the Australian ePortfolio Symposium in February 2008 were polled using the Keepad audience response system. Forty per cent of participants indicated that discipline specific/professional skills requirements were ‘Very important’ as a driver, with a further 30% indicating that they were ‘Important’. Only 8% reported that they were ‘Not very important’. In terms of improving the transparency of learning outcomes, 30% felt this was ‘Very important’ as a driver for ePortfolio implementation, with a further 33% believing it to be ‘Important’. Eighteen per cent indicated that improving transparency of learning outcomes was not a significant driver for introducing ePortfolios.

In the general comments a number of respondents indicated that graduate attributes and employability had also had a role to play at their institutions, issues that were also picked up in the management survey:

A significant driver was the Careers Advisory group assisting student preparing resumes.

For research students, it’s being driven by a need to demonstrate employability skills, beyond the very specific research area (ie leadership, organisation, communication skills etc). For undergrads, it’s being driven by the need for a more holistic representation of skills and attributes, and to this in a way that is both iterative and accessible.

While not yet introduced, ePortfolios have been identified as an important initiative to provide students with tools to report and reflect on learning outcomes and graduate attributes, and for work integrated learning.

The question for respondents of the management survey was worded slightly differently, seeking to look at broader strategic and policy factors rather than specific learning and teaching issues. Using the same 4-point Likert scale, the factors listed included:

- graduate employability
- graduate attribute policy
- technology policy
- strategic imperatives
- teaching and learning policy
- Australian Universities Quality Agency (AUQA) or other audit/review processes
- other external policies.
The single factor that scored highest in terms of being ‘Very important’ was teaching and learning policy. Strategic imperatives, graduate attribute policy, graduate employability and technology policy issues were all regarded as ‘Important’, while AUQA and external policy issues were the least important. However, when the scores for ‘very important’ and ‘important’ were aggregated, the most significant factors overall for academic managers were graduate attributes policy (n=18), graduate employability (n=17), strategic imperatives (n=16), while of lesser significance were the factors of teaching and learning policy (n=12) and technology policy (n=11). AUQA or other audit review processes (n=7) and other external policy issues (n=4) were considered only marginally relevant to ePortfolio implementation.

![Figure 6.16: Degree of importance of factors contributing to ePortfolio implementation: Management survey responses — ‘Very important’ and ‘Important’](image)

Some respondents looked more closely, however, at student related issues:

> The original driver was pressure from specific faculties for reflective tools and tools for skill assessment.

> I’d also add ‘flexibility’ as a key agenda (‘Important’) – recognition of prior skills, more flexible assessment pathways and so on. Portfolios are likely to be a good tool there.

Beyond this, respondents in both surveys were asked to detail the factors that contributed to the successful implementation of the ePortfolio in their context. Perhaps not unsurprisingly given the emergent nature of practice, a large number of people did not provide an answer to the question, or they indicated that it was too early to comment. Responses such as ‘successful may be a tad ambitious at this stage’ were common.

> I don’t believe that successful is a word I would use in this instance for my institution. I think that it is a sporadic approach – not well understood.

> I don’t believe that we have successfully implemented the ePortfolio. I am called on frequently to support an ad hoc approach in some courses. There is a faculty wide approach but no cohesiveness.

Of the responses provided, the embedding or integration of ePortfolio activities into the curriculum was considered very important, ideally with the ability to provide evidence of student learning outcomes, particularly when the activities were mandatory or relating to the need to meet specific professional requirements. The value of clear links with university strategy and policies was highlighted as having a bearing on the success of an initiative. A sound IT infrastructure, adequate funding and overt support from high-level champions were also noted as success factors:

> University wide approach with involvement of key players from academic, senior executive, IT, T&L, Careers. Strong sponsorship and governance models.

People played an important role, with the interest, commitment and buy-in of the teaching staff mentioned specifically, augmented by the modelling of ePortfolio practice by academics who developed their own teaching portfolios. Additionally, the ability to draw on best practice was noted by one respondent, while another mentioned the importance of the university’s competitive edge through the fear of falling behind other institutions. Nevertheless, the complexity of the situation was noted:
Implementation is patchy. This is both a strength and a weakness. Portfolios are taken up in disciplines where there is local enthusiasm. They have been developed to be appropriate to their specific use. They are grassroots initiatives. Very little institutional funding has been provided and this has slowed implementation. This is not necessarily bad, as it has probably avoided some costly mistakes and has avoided the imposition of a system that might not be optimal and might not meet the needs of students, staff and other stakeholders.

To counterbalance the positive factors that were highlighted, the survey also sought to identify the issues that had made ePortfolio implementation difficult. High on the list of concerns cited were the general low levels of awareness and understanding as a consequence of the lack of clarity around ePortfolios as a concept generally, and around the potential of ePortfolios for learning in particular.

An unawareness of them and a lack of systemic approaches to implementation. At present there is no recognised need for them and no strategic policy to drive the use forward. Also anticipate some internal resistance.

As a result, it was felt that many initiatives were sporadic, piecemeal and under-funded. There were concerns about the e-skills of students as well as the aversion of many academic staff to mastering and adopting digital technologies in their teaching:

Some students are challenged through their lack of ICT skills and knowledge; especially mature age students. Beyond the course I convene, course coordinators have not been able to assemble teaching teams with adequate skills and knowledge to design and create ePortfolios.

Academic staff involved in developing new initiatives felt that there was no real shared, collective understanding amongst many of their colleagues about the pedagogical value of ePortfolios, that there was a lack of direction from Faculty leaders, and that there was frequently a lack of interest at the higher levels of the university, all resulting in a sense of conflicting expectations.

Many technical issues were raised as barriers to implementation, including a lack of interest on the part of IT services, a lack of consensus over the choice of tool, or indeed mistakes made in selection of the tool. It was felt that there were unavoidable constraints due to the high level of investment in the central LMS or competition for funding with other eLearning projects, plus issues of integration and interoperability across student systems overall:

Issues include coming to a common agreement on definition of an ePortfolio, possible uses and technological constraints or usability of current or other technical systems.

We’re trying to implement this at a time of major change in a whole range of different areas. ePortfolio is often put at the bottom of people’s priority lists.

Many respondents identified multiple problems in their own specific context:

Lack of leadership and high-level sponsorship. Lack of strategic directions for technologies in learning and teaching. Lack of funding and resourcing. Lack of understanding of potential and availability of software. No common focus/understanding on requirements across disciplines.

Lack of policy. Lack of will or a driving imperative. Technology system not a strong point, therefore it would be even harder, also technophobes. No clear rationale. Little evidence base of the value of ePortfolios.

Other respondents were less vocal, but acknowledged the challenges they had faced:

I don’t know about the factors – just that it has been incredibly hard.

I don’t know. But I can tell you how difficult it was for our centre.

Respondents in large institutions referred to tensions between a university-wide product and individuals wanting to be innovative and implement their own ePortfolio product. One issue presented indicated that the overall planning and control had favoured a university centric model as opposed to a student centric model in which students have ownership and control over their ePortfolio. Another respondent commented on the lack of alignment between the introduction of new technologies (at the institutional level) and the reality of students’ needs (at the individual level):
ePortfolios will be implemented across the board when there is sufficient demand. This demand may well come from the students. Staff are still grappling with new technologies and new versions of our LMS and we need to react to demand rather than let technology drive education. This is not to say that ePortfolios will not be promoted, but rather than generically, it will be done on a needs basis. At the moment staff and students are getting involved with wikis and experiencing collaborative learning strategies.

6.2.7 The impacts of ePortfolio use on students and staff

The Australian research sought to determine the actual impacts of ePortfolio use in the different institutions and contexts. One question in the learning and teaching survey looked at the relative impact of ePortfolios on the awareness — on the part of both students and staff — of specific aspects of academic life:

- eLearning technology
- learning outcomes
- reflective learning
- graduate attributes
- professional skills
- goal setting/career planning by students
- improved assessment and review processes.

In addition, there was an option of ‘too early to tell’. The null response was 46. Multiple responses were possible and it was noted that the majority of respondents recorded a range of impacts resulting from the use of ePortfolios.

Interestingly, in each category of academic life listed in the question that involved both students and staff, the increase in awareness was believed to be far greater for students than for staff.

![Figure 6.17: Impacts resulting from ePortfolio use: Students and staff learning and teaching survey responses](image)

The greatest impacts recorded were for increased student awareness of reflective learning (n=20), of learning outcomes (n=19) and of professional skills (n=19). There was also agreement that the use of ePortfolios could have a positive impact on goal setting/career planning by students (n=13) and improved assessment or review processes (n=14). The greatest benefit to staff was perceived to be an increased awareness of eLearning technologies (n=11) and of graduate attributes (n=11). However, a large number of respondents strongly felt that it was too early to say (n=29): there was a high degree of uncertainty, as well as the absence of any measurement.

The same question was included in the management survey, which recorded a null response of 18. Respondents were vocal in their belief that it was too early to say (n=13), and once again, the positive impacts were perceived to be stronger for students than for staff across the range of issues (eLearning, graduate attributes, learning outcomes and professional skills). It was not felt, however, that the use of ePortfolios had resulted in any positive impact on the selection, admission or retention of students, on staff review processes or on assessment or review processes.
This last issue contrasts strongly with the views of respondents in the learning and teaching survey, who had felt that the use of ePortfolios had led to improved assessment and review processes (n=14).

6.2.8 The evaluation of ePortfolio use

Respondents were specifically asked about the evaluation activities that may have been undertaken to determine the impact of ePortfolio use in their institution. There were 43 responses to the open-ended question in the learning and teaching survey, with close to 50% of the responses recorded indicating that, quite simply, no evaluation activities had been performed. A further 25% reported that informal, anecdotal evaluation had taken place, generally capturing student feedback via focus groups or semi-structured interviews. Only three respondents indicated some degree of formal evaluation: one in conjunction with a Masters by research project, with a small teaching and learning research grant and an Australian Research Council (ARC) Discovery grant; another who reported extensive publication on the topic of ePortfolios and digital storytelling; plus another who reported extensive evaluation of the ePortfolio and its implementation in the discipline area of nursing and midwifery.

A handful of respondents in the management survey answered the question about evaluation, which, in that survey, specifically asked whether:

- The ePortfolio model is not evaluated (n=5).
- A formal evaluation process is carried out (n=2).
- Evaluation of the ePortfolio model occurs on an ad hoc basis (n=5).

The responses in the ‘Comments’ area to this question principally underscored the fact that the respondents were not aware of any evaluation activities, or that what had been done was very rudimentary. Only one response recorded a more rigorous process:

The first stage of ePortfolio project is currently being evaluated and feedback will be presented to the [...] Steering Committee. Recommendations of a technical, policy and support kind will be made. Each phase of the implementation will be systematically evaluated with stakeholder feedback and in collaboration with the Evaluation Unit of [the Teaching and Learning unit].

6.2.9 The philosophies underpinning ePortfolio practice in Australian universities

The Australian ePortfolio Project sought to determine the central philosophies underpinning the use of ePortfolios in the different institutions. The statements presented to the respondents included:

- It is a secure repository for students to collect and store evidence of their skills and knowledge attainment.
- It is a place for students to reflect upon their learning journey — where they have come from and where they are going to — it’s about the process of learning.
- It is about evidence of skills, but there’s also an opportunity to show the process and to reflect on what this means to the student.
- It is about reflecting on learning, but there’s also the opportunity to collect and attach some evidence for this.

The highest score from the academic angle was the view that it was about evidence of skills, along with the opportunity for the students to show the process and to reflect on what it means to them (n=40).
From the management angle, the distribution of views was even, with the strongest view focusing on the possibility for students to reflect on their learning journey (n=12). In the open-ended comments, however, respondents indicated that there tended to be no institutional philosophy per se, but a collection of individual philosophies and that all of the philosophies had their place in the work they were doing. In the specific case of professional accreditation, the ‘evidence of skills’ was, of necessity, the most demonstrable philosophy.

Some of the respondents in the management survey highlighted that the philosophical statements were not mutually exclusive and that it did depend on the context of the ePortfolio:

All four options are important, and will be more important at different times (especially from a life-long learning viewpoint [and] when we [do] have an ePortfolio solution, this balance will vary according to faculty implementation.

This viewpoint was also proving problematic in one particular institution:

Part of the delay in implementing here is the perceived competition between these drivers, and which one will be the primary focus of the institution.

One respondent highlighted the importance of developing the confidence of students in the recruitment process, so that the philosophy was about having a tool to underpin an individual’s opportunity for success in the world.

Several respondents highlighted the fact that the concept of ‘lifelong learning’ was not included in the statements, but that they felt this was significant:

the intention is to support a life-long repository of information about a person’s life with the institution.

Once again, however, there was a significant group of respondents who inevitably indicated:

this is the philosophy but not yet the practice
this is what we hope it to be when it is up and running

6.2.10 Additional comments from survey respondents

At the end of the survey, respondents were invited to tell the research team about any issues that they felt were important, but which had not satisfactorily been addressed by the questionnaire. The question elicited 27 responses in the learning and teaching survey and 13 in the management survey. Inevitably, given the broad range of stakeholders who submitted their responses, a broad range of issues was raised. There were two negative comments about the survey based on perceptions that the survey seemed to anticipate established ePortfolio practice, which meant there was little scope to comment on work that was under development, and that the focus was too strongly on the platforms for ePortfolios, rather than on ePortfolios themselves.
In contrast, other respondents expressed pride that they were embarking on projects that offered promise for the future, that it was early days and there was a long journey ahead. There was a feeling of commitment and confidence to move forward.

One of the principal themes was the need for students to be central in the whole process:

The rationale for portfolio building must make sense to the students. Implementation of portfolio based assessment highlights the need for formal teaching of many other adult learning skills, including reflective practice skills and skills about ‘learning how to learn’.

I see potential in using the ePortfolio to move tertiary students from formative to transformative learning (re Mezirow’s constructivist theory of adult learning).

There was concern that academics need to play a strong role in providing support for students, and to ensure that the students manage the process with a clear understanding of their learning, their learning outcomes, graduate outcomes and their potential employment outcomes.

Academic managers provided comments that not only stressed the need for adequate resourcing at the institution and sector levels, but also that the evaluation process should not be overlooked.

6.3 Focus groups and semi-structured interviews

The research methodologies chapter (Chapter 3) has presented the background to the focus groups (Section 3.5) and the semi-structured interviews (Section 3.6). The objective for the focus groups and semi-structured interviews was to use qualitative research approaches to capture richer data that would support and expand on the analysis of the diverse approaches, purposes, audiences and infrastructure that characterises ePortfolio practice in Australian higher education.

6.3.1 Focus groups

The focus groups were held in Melbourne, Wollongong, Armidale and Brisbane, reflecting the geographic location of the four project partners, with additional meetings convened in Adelaide, Perth and Sydney. Unfortunately, the geographic distribution of the focus groups meant that it was not feasible to have a common moderator for all focus groups. Of the seven focus groups, four were conducted by the one moderator; two by a second moderator and the seventh focus group was facilitated by a local contact person owing to difficulties encountered at the time of the focus group discussion. All moderators had significant experience in the sphere of ePortfolios in the higher education sector, and with ample guidance about the structure and process of the focus groups they sought to achieve consistency of data collection across the sessions.

The size of each focus group ranged from eight to eleven people. A total of 45 people attended the focus group meetings, representing the tertiary, schools and vocational education sectors, along with employer and professional groups. While the research team endeavoured to ensure that the focus groups had a mix of sector representatives, it proved unavoidable that one focus group was attended by representatives only from the higher education sector. Nevertheless, this meeting was valuable in so far as quite diverse perspectives were presented in the discussions, as the participants all worked in different areas of the university, for example, from faculties, from learning and teaching support areas, and career and employment services.

Focus group participants were asked to respond to a number of stimulus questions that aimed to uncover their understandings of ePortfolio use, the purpose of ePortfolios in their immediate context and their perceptions of the support required for this activity. The questions included:

- What do you think an ePortfolio is/can be used for/comprises?
- What is the purpose of an ePortfolio in your sector?
- What are you doing with ePortfolio at the moment?
- What would you like to be doing in the future? Why?
- What support/factors would you like to have in order to progress your level of engagement?
- What would you like the higher education sector to be doing in terms of ePortfolio use/support?
The focus group discussions were recorded, transcribed and analysed using transcript-based analysis (Kreuger, 1994, p. 143). Two analysts who were not the moderators of the focus group discussions undertook this activity. Keywords and phrases were identified and then aggregated into themes. A brief summary of the issues was prepared from each focus group. The individual focus group summaries were then combined and collated to give an overall view of the themes emerging from the complete series of focus groups. As suggested by Breen, noteworthy quotes were included in the analysis to illustrate the ‘extensiveness, intensity and specificity of comments made’ (2006, p. 472).

The rich narrative data was further examined using the data mining tool Leximancer. This software tool enabled the collection and identification of all principal concepts and themes, some of which may have been overlooked in the initial phases of textual analysis. The specific value of Leximancer to the research team relates to the visual display of the extracted concepts. This software produces a conceptual map representing the main elements of the text and the relationship between the different terms (Leximancer, 2007). Leximancer primarily uses Bayesian theory to select key themes and is a relatively new type of analysis software developed at the University of Queensland.

Focus group participants initially provided various definitions of ePortfolios and how they were used within their specific context. The most common response to defining what they understood to be an ePortfolio related to how they would use the ePortfolio for either personal and/or career development, making reference to employability skills:

I’m really excited by the notion of ePorts I really like the idea of making it available to students and staff and whether for the RPL process or for the purpose of linking it to their employability skills.

With the work that’s been done with industry consultative councils – you need to be able to identify employability skills you need to articulate employability skills you need to be able to assess employability skills and report and they’re suggesting an ePortfolio is the way to do this.

The transcripts were analysed to identify the key topics raised by participants in the focus groups. The focus groups were effective in teasing out and expanding on a number of topics and issues that were only alluded to — or indeed, actually not raised — in the data collected in the surveys. These topics have been distilled into four principal themes that emerged from the discussions:

- the significance of employability skills
- the student experience
- the validity and authenticity of ePortfolio content
- interoperability issues.

6.3.1.1 ePortfolios and employability skills

The themes of ePortfolios in the context of career management and personal development were central to the discussions. Within this theme, the potential purposes of ePortfolios, discussed from the angles of diversity of use of and multiple applications for ePortfolios, were significant issues, with attention also paid to infrastructure and pedagogy.

One of the main issues related to the multiple contexts within higher education where ePortfolios could be used, so that the distinctiveness of the disciplines, along with faculty and/or divisional requirements, needed to be recognised. The problems of joint degrees and the movement of students between disciplines were highlighted:

There are some issues that arise from having combined degrees such as terminology and the language in the approach to ePortfolio use

Often the ‘tool’ is used for a specific purpose and may be hard to adapt – uses the example of developing an ePortfolio for medicine and then being unable to use in other faculties

However, the comments around career planning looked beyond the ‘tool’ itself to highlight the importance of the ‘process’ driven by ePortfolio practice in the development of employability skills and employment readiness:

An ePortfolio is not just about the output but is about the student becoming more aware of their thought processes across the course of their academic life - those skills are the things that will get them the job

Giving them confidence to communicate, they will understand their own strengths and weaknesses
A small number of participants talked about the role ePortfolios could play to enhance understanding of learning outcomes, so that both staff and students could grasp the relationship between the coursework and career opportunities:

*ePortfolios help students understand what they going to do with their degree …*

*ePortfolios seem to be driven by concerns around Graduate Attributes that universities have been unable to embed successfully ... we need to get more serious about Graduate Attributes and those processes*

However, the employers who attended the focus group meetings generally felt that, in their field, not enough was known about ePortfolios and the role they could play in articulating skill development to support job applications. They also expressed their own concerns about the time involved in viewing and assessing individual ePortfolios. While they felt that ePortfolios could be better promoted to employers by the university careers and employment services, employers were also worried about the impact that a range of different ePortfolio tools might have on the recruitment process, so that in contrast to the academic viewpoint about the value of diversity, employers felt that diversity could be counterproductive.

*If an ePortfolio is in one format nationally then there is value in the product but if it is customised or individualised then the process of examination becomes time-consuming.*

Interestingly, the concept of a national, uniform ePortfolio system was not presented as an option in any of the responses received in the national audit of academic staff, university administrators and human resources managers.

### 6.3.1.2 ePortfolios and the student experience

The focus group discussions considered the value that ePortfolios could add to student learning, to provide a deeper, more relevant learning experience that resulted in student motivation and student engagement:

*If the ePortfolio is made meaningful and relevant then the student will engage – relevancy is crucial*

There was an awareness that the teaching staff were critical to the process, to ensure the ePortfolio was soundly embedded in the learning and assessment activities:

*If something is decontextualised outside a subject students don’t consider it as important, but if it is contextualised or assessment-based then … well, you have to convince the teaching staff that the ePortfolio is relevant*

Many focus group participants saw that a key purpose of ePortfolios would be to establish connections within and across the existing curriculum to link subjects across the program of study. Within the context of curriculum renewal and curriculum design, however, there was an opportunity to be innovative and to make the most of ePortfolios:

*[introducing new courses] … these course coordinators should be made to consider how best to incorporate ePortfolios in their units.*

In terms of pedagogy, the discussions also considered reflection as a central ePortfolio activity, with participants recognising the value of ePortfolios because of the way reflection could assist students understand their own learning and the importance of the learning process. Support for the development of reflective skills was discussed, along with the issue of how to effectively assess reflective practice. Participants drew attention to the need to re-conceptualise learning and assessment, to ensure student-centred, rather than teacher-centred practices. The themes of formative assessment, authentic assessment and student-teacher ratios were all explored.

There was a strong sense that ePortfolio practice frequently emerged as the result of passionate and enthusiastic teaching staff who intrinsically believed in the developmental and pedagogical values of the portfolio process to their students:

*… an institution like ours I think what you need are a few champions. XX has been a lone voice for quite a while using ePortfolios in her teaching practices and I think you get a few champions and you let them be held up as star performers*
It was agreed that there was a need for some common understandings about ePortfolios, so that grassroots enthusiasm is more grounded, yet also balanced by commitment from the academic managers:

> What I’m saying is coming from the bottom we need to make sure that what we’re taking forward is a clearly articulated view of what ePortfolios are - how broad should they be, how can they be used - you need that coming up while the top down stuff is happening.

The two-pronged approach is essential, with further essential groundwork to be done on the part of the academics:

> I think that what we don’t do well is the business case. We can all argue the pedagogy of it the worth of it but we don’t provide the business case to the bean counters… I think we at a lower level need to take some responsibility for creating the business cases that we push up rather than wait for it to come down we need to say here’s the business case.

Participants were aware of a growing interest amongst academic staff using the ePortfolio as a tool to support their own career development, with a feeling that there could be merit in the teaching staff being able to model ePortfolio practice with their students:

> Academics are moving ahead with their career development and the ePortfolio would be a useful tool It would be useful to introduce ePortfolios to academic staff for a period of six months before students use it then staff can reflect of their own educational practices before their students use it

In terms of the student experience, focus group participants highlighted the need to keep the ePortfolio process simple and relevant, to consider the time that may be involved in introducing ePortfolios into a course (this includes student time and staff time) and to ensure that there was appropriate support for students at all points of their learning journey. Issues such as student diversity, equity and accessibility were also critical.

### 6.3.1.3 The validity and authenticity of ePortfolio content

Topics such as the validity of information presented in a student’s ePortfolio did not emerge as a factor for concern in the national audit. Focus group discussions did, however, raise questions about the issues associated with the authenticity and/or validity of materials, specifically within the context of a ‘skills passport’:

> If it’s a Uni X product how do we ensure the student whatever they put in is true (and if it’s coming from X Uni hosted site it looks like we’re endorsing) … So how do we ensure that actually what the student puts in either in a reflective or in an actual list of these actually is true … or indeed is their work That raises the issue about validation that’s again something that we’re working through because we had a validation process in place in relation to our skills passport but when the passport was first introduced there was quite a focus on validating students’ entries

> But as we’ve wanted to open up the passport and the recording of employability to beyond just what they’re doing in the TAFE sector to other life and work experience we’ve had to say to both teachers and students we don’t expect teachers to validate if the kid’s working at Bunnings

These issues expanded naturally into the topic of the National Diploma Supplement, which was understood to represent the information that ‘we can verify as an institution’, with employers hoping to gain a better grasp of some of the structural issues in higher education. While the idea of a diploma supplement (or the Australian Higher Education Graduation Statement, discussed in Chapter 7) was accepted comfortably as an authoritative, nationally uniform document, there were clear concerns about the possibility of a common, national ePortfolio system that was felt could be too restrictive to accommodate the range of professional needs, the various discipline-specific requirements and the diversity of students. Further disquiet was expressed in relation to the security, privacy and confidentiality of personal information.
6.3.1.4 Interoperability of ePortfolios

The tensions between the individual’s desire for flexible, potentially ‘unstructured’ formats and the need for formally structured data for administrative purposes were explored. As many of the focus group participants were drawn from sectors beyond the higher education sector, some of the issues inevitably extended beyond the natural sectoral boundaries. The views of representatives from the schools and vocational education sectors specifically considered the need for migration and articulation between the different sectors, together with the implications of student mobility:

Talk of ePortfolios going into schools in a type of national system brings about concerns around transportability and translation

Issues of portability and transferability – that is, after their academic career – is causing us problems at the moment

It was felt that students needed to be reassured that the efforts they put into their ePortfolio had ongoing value, so that if they studied at more than one institution, or interrupted their studies for a while but later returned, or if they ultimately completed their formal studies, they could continue to access and develop their ePortfolio.

… need a lifelong tool and it needs to be portable, able to move with the person and allow for the ongoing collection of information

The concerns about the potential of a specific ePortfolio system to evolve with a student’s changing needs, especially with new technologies impacting on their lives, led to the discussion of issues of transferability of data between different ePortfolio systems. The notion of lifelong access was considered within the context of institutional ownership or stewardship, the sustainability or scalability of systems, licensing and maintenance costs, as well as data storage costs. Beyond the technical issues, however, participants in the focus groups noted the importance of establishing meaningful ePortfolio processes that would support and encourage lifelong learning and the continued interest in ePortfolio development.

6.3.2 Semi-structured interviews

A number of individuals were invited to participate in a semi-structured interview to enable the research team to explore specific issues in greater depth. Despite the current strong emphasis within the education and employment policy arenas on workforce participation, employability skills and productivity, the research team had found it frustratingly difficult to garner the interest and engagement of employers in the Australian ePortfolio Project. It was hoped that, through a series of semi-structured interviews with individuals who were personally invited to participate in the project, insights might be gained into the views of these stakeholders. A total of seven interviews were conducted. The interviewees who were selected represented, on the one hand, employers and the professions, and on the other hand, broader ICT policy issues, so that they presented alternative perspectives about their own interplay with the higher education sector.

As in the focus groups, the interviewees were initially asked about their current understandings of the use of and purposes for ePortfolios. The interviews uncovered a diverse range of understandings about ePortfolios and what they might be used for. There was a general awareness that students needed to be able to effectively present their generic skills or graduate attributes to potential employers. One interviewee had initiated a project for this purpose for a professional body:

We use it for reflection, gathering evidence of competencies, recognition of prior learning and then obviously careers development – also transitions between different sectors, also supports lifelong learning.

A graduate recruitment specialist felt there was a keen responsibility on the part of the higher education sector to better prepare students to address selection criteria in employment applications:

One of the community or employer reps on [our] board had made the observation that many graduates had some difficulty being able to explain during job interviews ‘thought of’ transferable skills

However, while the higher education and vocational education sectors are actively encouraging the use of ePortfolios to support professional learning and personal development, it was acknowledged that
the employment sector was not only slow to become actively involved, but that it also expressed some degree of scepticism:

I don’t see anything like an ePortfolio being used in my sector (recruitment).

I don’t think it would add anything to us getting a higher calibre of graduate because where we would benefit is actually being in person going to one of the actual third year accounting lectures and promoting us’

While there was a limited awareness amongst employers in general about the role or potential of ePortfolios, those closest to the vocational sector appeared to have the clearest understanding of the cross-sectoral value:

We are interested in your project because we are keen to work with other sectors because a real strength of ePortfolios is supporting a lifelong learning culture – students will move around doing different things – we would like to work with other sectors to see how we can align our goals and those sorts of issues – potentially people will first come across ePortfolios in schools so we are interested in working with schools a bit more as well.

Interviewees recognised that the major issues, for them, were the high level issues such as policy and funding:

Funding is always an issue… we don’t have actual funding around ePortfolio construction – individual implementers have their own issues with funding.

Another big area is policy – even if an ePortfolio system is implemented, there is still a lot of work to do around policy

When people do try to embed things on a broad scale you get bureaucratic complexities that often take longer …

It was felt that major difficulties resulted from the lack of cohesion across the education sectors in general, which presented challenges in terms of policy development and collaborative funding opportunities. The higher education sector was seen to be quite fragmented, with no real national approach to anything. However, it was acknowledged that greater levels of cooperation were required in the future:

We don’t see that we would implement one ePortfolio system for the whole country, but that whenever people are implementing systems, we need to work with them to ensure they work with the others.

Student mobility inferred that ‘evidence of learning’ would need to be moved between institutions and indeed sectors. It was acknowledged that some of the necessary foundations were in place and that interest in interoperability was growing. The Australian Access Federation Project (AAF, 2008) was noted as a key enabler that would allow different parties to exchange information in a secure way across institutions. Nevertheless, there was a need to establish and promote best practice, with clear guidelines illustrated by effective use studies:

You need clarity and national agreement on schemas and standards.

One participant felt, however, that as the level of understanding about standards and interoperability amongst senior decision makers was regarded as relatively low, there was a strong need for awareness-raising activities and for cross-sector projects:

We would like to be working with implementers to make sure we are doing things in an interoperable manner.

The Australian ePortfolio Project was identified as a conduit not only for raising awareness, but also for considering the global trends and building the opportunities for collaboration with international players.
6.4 Student surveys

While the research subjects in the national audit, the focus groups and the semi-structured interviews were teachers, educational designers, academic managers, employers and people involved in K-12 and vocational education, it was important to consider the views of the learners themselves. Therefore, as a further angle of the research, a series of surveys was developed to capture a range of students’ perceptions of and experiences with ePortfolios. The surveys included a survey of mature users of ePortfolio, augmented by personal interviews, and student pre-course and post-course surveys. Over 500 students took part in the surveys.

6.4.1 Pre-course and post-course surveys

The research team believed it would be valuable to build on the mature user data by listening to the ‘student voice’, capturing the initial expectations of students about to use ePortfolios in their academic studies and then reviewing their experiences of this ePortfolio activity.

Two separate online surveys were developed: one to be completed prior to a student’s use of an ePortfolio (the pre-course survey) and the second to be administered as follow-up survey for the same students, completed close to the end of this first semester (the post-course survey). Potential survey participants were targeted through Australian ePortfolio Symposium delegates who had indicated they were planning to use ePortfolios during the first semester of 2008. Representatives of six universities agreed to participate (see Section 3.7.1), with a selection of metropolitan and regional, ATN and sandstone universities involved. Two of the universities were partners in the research project. Notwithstanding the persistent efforts of the research team to increase the involvement of the other institutions, 83% of responses in the pre-course survey and 70% of responses from the post-course survey were drawn from one university, although it was noted that the respondents were spread across a wide range of disciplines.

6.4.1.1 Pre-course survey

The pre-course survey was developed to ascertain the students’ understanding of an ePortfolio prior to actually beginning to use one and to consider their expectations about what an ePortfolio might mean to them in their learning. Four hundred and four useable student responses to the pre-course survey were collected. The demographic data revealed that 85% of respondents were female; 60% were aged 16–20 years; 13% were aged 21–25 years; 8% were aged 26–30 years and 18% were over 30 years. One respondent was under 16 years. Eighty-nine per cent were undertaking undergraduate studies, with 15 different discipline areas recorded. The most represented disciplines were Nursing (28%), Psychology (12%), Health (10%) and Science (8%). The remaining disciplines were Behavioural Sciences, Biomedical Science, Business, Creative Industries, Education, Information Management, Law, Medicine, Pharmacy, Life Sciences and the Humanities. Eight per cent were postgraduate coursework students and there were five higher degree research students. The majority of respondents were full-time, internal students, with 69% reporting that they were in their first year of study. Seven per cent were international students. The vast majority (87%) of respondents had never used an ePortfolio before; 21 students reported that they had used an ePortfolio at university in an undergraduate context and six in a postgraduate context. Eighteen students reported using social networking tools as an alternative format for an ePortfolio; eight students had used an alternative ePortfolio system for employment/recruitment purposes and 17 students had used an alternative ePortfolio tool in secondary education or vocational (TAFE) education. Only 72 students (18%) reported having their own website and of these, only a quarter (n=18) viewed their website as a type of ePortfolio.

Students were asked to select the statement or statements that best described their understanding of an ‘ePortfolio’:

- It is an electronic tool for self-assessment, a place I can record my experiences during my course,
- something like a diary
- It is an electronic version of a paper portfolio
- It is an electronic filing cabinet filled with examples of my course work
It is a secure electronic repository for me to collect and store evidence of my skills and knowledge attainment.

It is a place for me to reflect upon my learning journey — where I have come from and where I’m going — it’s about the process of learning.

It is about evidence of skills, but there’s also an opportunity to show the process and to reflect on what this means to me.

Other (please add your own definition)

Students were free to select more than one response to this question. The majority of respondents (66%) indicated that they thought ePortfolios were an electronic tool for self-assessment, a place I can record my experiences during my course, something like a diary. Beyond this, there was a spread of respondents considering ePortfolios to be a repository, a place for reflecting on the personal journey and a means for showing evidence of skills development, with about 40% of respondents selecting the relevant statements. Fewer respondents (less than 30%) indicated that they thought an ePortfolio was like an electronic filing cabinet or was an electronic version of a paper-based portfolio.

Over 70% of students agreed or strongly agreed that using an ePortfolio would help them with their studies across a broad spread of activities: providing a place to store examples of academic work examples, as well as extracurricular activities (for example, volunteer work and life experiences); facilitating personal reflection and evaluating learning processes; and helping them keep track of learning experiences. Ten per cent of students were sceptical, stating they did not believe that ePortfolio activity could actually help them become independent, self-directed learners.

Students were asked to identify how they felt about the prospect of using the ePortfolio for their unit of study, with the opportunity to select more than one option. A diverse range of emotions was recorded.

Table 6.3: Students’ feelings about the prospect of using an ePortfolio: Pre-course survey responses

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<th>Enthusiastic</th>
<th>Positive</th>
<th>Neutral</th>
<th>Uncertain</th>
<th>Confused</th>
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<tbody>
<tr>
<td>14%</td>
<td>37%</td>
<td>34%</td>
<td>27%</td>
<td>21%</td>
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One student reported feeling technologically challenged by the prospect of ePortfolio requirements in the unit, and one student indicated feeling happy that it was to be assessed because this gave the activity purpose.

At the conclusion of the survey, students were given the opportunity to convey any other feelings they might have about the use of ePortfolios in their unit of study. Twenty-eight responses were received for this open question. Several students added a positive comment about looking forward to using the ePortfolio; three students linked their comments to a perceived benefit for career/employment; and five students thought they would need more support in using the ePortfolio. Individual students reported that they felt:

- ePortfolio activity is just an extra added workload and stress
- it should be voluntary and not assessed
- it provides very good support for students
- concerned about ongoing access beyond graduation.

It appeared that students saw the ePortfolio as being primarily for independent use, rather than for collaboration and communication with peers.

6.4.1.2 Post-course survey

The follow-up survey aimed to collect evidence of students’ actual experience of using the ePortfolio in a unit of study during the first semester of 2008. The survey was released to the student cohorts who had already taken part in the pre-course survey, timed to fit in with the end of semester learning activities for each cohort. The surveys were linked to the individual respondents through the use of a respondent-constructed code. The post-course survey sought to identify the potential correlations between the students’ initial perceptions and expectations and their actual experiences.
A total of 101 valid responses to the post-course survey were received — only one quarter of the total number of respondents who had completed the pre-course survey. Cohorts at two universities that had participated in the pre-course survey did not contribute to the post-course survey, and 70% of the respondents came from one university. The predominant discipline area represented was Nursing; Law, Business, Psychology, Information Management, Science, Behavioural Sciences and Biomedical Science were represented to a lesser degree. Interestingly, there were more ‘older’ respondents who completed both surveys. Forty-two per cent of all post-course survey respondents were aged over 26 years, compared to 26% for the pre-course survey. While 60% of pre-course survey respondents were aged 16–20 years, this figure dropped to 48% in the post-course survey. The majority of respondents were female, undergraduate, internal, domestic students, and 77% of these were first year students.

Seventy per cent of respondents indicated that their ePortfolio had been summatively assessed, while 40% reported that there was formative assessment of their work. Twenty-two per cent stated that their ePortfolio was only about reflecting on learning, and 14% said that it was only about collecting evidence of learning, while 64% agreed it was about both collecting evidence of and reflecting on learning. There was a fairly even distribution of responses about what was assessed in the ePortfolio, with about two thirds of respondents reporting that the artefacts, the reflective process of creating the ePortfolio and the ePortfolio as a final product, were assessed. Only 5% stated that the ePortfolio was not assessed at all. Ninety-seven per cent reported that the review or assessment was undertaken by teachers or tutors, while 11% stated that their peers were involved in the review or assessment; 7% highlighted the fact that the ePortfolio was reviewed as part of a career planning or mentoring process.

There was strong evidence of support for the students in their ePortfolio work: online support through web resources and tutorials were noted by about two thirds of students, while about half had face-to-face support from academic staff. Printed handouts were also available to more than one third of students. One question asked students to consider what they found to be the greatest challenge in using the ePortfolio: 70 of the 101 students provided an answer to the question:

- one quarter of them considered the selection of experiences and drafting the entries the biggest hurdle
- students found the reflective process specifically challenging
- six students said that finding time to work on the ePortfolio was a concern, given all the other responsibilities they had
- technical issues concerned 13 students, although four students directly commented on how easy they found the technical side of things.

In terms of the outcomes from ePortfolio use, 84% agreed or strongly agreed that it had helped them evaluate and reflect on their learning processes; 71% felt that it had helped them keep track of their learning experiences and reflect on areas of weakness; 74% found it a valuable place to store examples of coursework, while 60% noted that it had helped store examples of extracurricular activities that might be relevant to their future career, but less than half believed that the ePortfolio has contributed towards them becoming effective, independent learners. In conclusion, the students were generally constructive and optimistic about their ePortfolio experience. Half of the students felt positive or even enthusiastic about ePortfolio, while over one third were neutral.

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<tr>
<td>Pre-course</td>
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<td>Post-course</td>
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<td>36%</td>
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Sixteen per cent reported some sense of negativity, which was, however, considerably less than the 58% who reported concerns in the pre-course survey. Fifty-four per cent of respondents felt that the ePortfolio had been beneficial to them in their subject/unit of study, 23% felt it was not beneficial and 23% were not sure.
Respondents who reported feelings of confusion and anxiety also recorded both the lack of usefulness of the ePortfolio and the decision to discontinue using it. Seventy-four per cent of students indicated that the ePortfolio would continue to remain accessible to them, but only 39% said they would continue to develop it, with another 39% not sure whether they would continue to use it or not; 21% said they would not maintain their ePortfolio. Nevertheless, a quarter of students said they would be motivated to create their own ePortfolio if they could not use the institutional one.

6.4.2 ‘Mature’ user study

One specific cohort of interest was that of learners referred to by the research team as ‘mature’ ePortfolio users. Drawing on the data collected from the learning and teaching surveys, the researchers invited respondents who had reported extended use of ePortfolios to nominate students who could be considered ‘mature users’ and who would be interested in participating in the research. Contact was made with the representatives of seven institutions, resulting in invitations to participate being extended to 16 students or recent graduates. Nine people from two universities accepted the invitation. Of the nine subjects, three had already graduated, while the six continuing students fell into the different categories of undergraduate, postgraduate or PhD students. The demographic data revealed that six of the nine respondents were over the age of 45 years.

There were two parts to the ‘mature’ user study:

Part 1: A short online survey to capture some demographic and context-specific information about ePortfolio use

Part 2: semi-structured interview conducted by telephone or face to face.

The respondents were asked to select from a series of statements the description(s) of ePortfolios that best matched their own understanding. The statements encompassed the concepts of document storage, evidence of skills, learning, reflection and assessment. Respondents could also provide their own description.

Eight of the nine respondents selected the statement:

*It is a place for me to reflect upon my learning journey — where I have come from and where I’m going — it’s about the process of learning*

Additionally, seven of the nine respondents also indicated that:

*It is a secure electronic repository for me to collect and store evidence of my skills and knowledge attainment*

The majority of respondents (n=8) stated that their ePortfolio was part of summative assessment, and seven of the nine respondents claimed that the ePortfolio as a whole was assessed rather than specific components of it. Seven respondents had the ePortfolio reviewed or assessed by tutors and teachers while two had their ePortfolio reviewed by their peers. The main form of guidance and support provided to the ePortfolio users was in the form of printed handouts, although a mix of respondents indicated they had IT support.

The respondents were then contacted by phone to participate in a semi-structured interview. The questions were developed to stimulate discussion around the use of ePortfolios in relationship to their learning and reflection activities as mature users. The preliminary questions sought to summarise the respondents’ perceptions of the main benefits in and limitations to their use of the ePortfolios.

Having a clear purpose for and structure to the ePortfolio was highly valued:

*In the past when I’ve had to put together a portfolio it was really difficult to give specific examples of anything in a concise, easy to understand format, whereas the ePortfolio is organised, it is linked to work competencies and is ‘much-much easier’.*

Some of the positives included the opportunity afforded by the ePortfolio for the user to link their learning experiences with their required competencies:

*ePortfolio is organised, it is linked to competencies with your workload*

*Helps find connections between your work and this is easy to show … to show these logical connections*
The view was also expressed that a user was able to recognise the progress they were making in their learning:

*Gives you confidence because you can see yourself developing in the skills base and what you are achieving*

Additionally, mature users of ePortfolios were able to recognise gaps in their learning or skills that they could promptly address:

*The ePortfolio prompts you to think about a comprehensive range of skills, helps you recognise gaps in your skills. The different range of skills may not have been recognised if those prompts were not there*

Some of the benefits offered by ePortfolios as a digital platform were also discussed in the interviews:

*We could place a variety of documents of various sizes and formats in the one location
... also easy to call upon to show others and navigation was simple – rather than shuffling through lots of paper*

While there actually were very few limitations or 'negatives' discussed, those that were mentioned overwhelmingly related to functionality and interoperability issues. Some mature users felt the functional design of the system they had used was restrictive:

*... I wanted something a bit more flexible, having a few extra options
Really of question of what is omitted – the way it is structured should be more like a web blog so it can encourage some feedback
The size of the ePortfolio can be an issue if you are sending it through to someone*

The interview also allowed mature users to offer their advice to others who may be contemplating using ePortfolio systems in the higher education sector. Essentially, the key comments were that students required support during their use of an ePortfolio:

*The support structures [the lecturer] offered were a positive – both formative and summative in my context; had support in our workshops from both our tutors and careers people, who were able to share the experiences within the group and with other students.*

Respondents felt that an ePortfolio should be introduced early in the student's university life:

*Try to integrate it into a course – if it was just used in one unit it could just become a tick box exercise.
Students need to see an ePortfolio right at the beginning, see an example and realise the scope of what you can actually do*

Assessment of the ePortfolio was seen as essential to ensure that the student was motivated to use the ePortfolio regularly and consistently:

*Assessing the item keeps the momentum going because a big issue is finding the time to use the ePortfolio.*

Some mature users stressed the importance of clarifying the purpose of using the tool:

*... once you know what the purpose is it is much easier to set up*

As the interview progressed, the discussions centred on the learning process in using the ePortfolio. The main focus was on the development of the student as a learner and the impact of their use of the ePortfolio. Mature users detailed several impacts that the ePortfolio had on their learning, both while at university and in their employment since finishing their studies. The main comments around impact on learning were broad ranging:

- application of reflective processes on their work
- increased their digital competencies
- able to identify and understand their skill sets
- increased efficiency in regards to the organisation of their learning
- improvement in the organisation of their work examples.

Respondents commented:

*Made me understand more fully the different aspects of my learning and the skills*
Helped me to articulate reflective practice and has kept me focused on the required competencies that I needed to home in on
Encouraging me to think outside the square – have to find evidence to support my work

All nine mature users believed their use of an ePortfolio changed the way they understood their development and growth as a learner. Many of the individual responses were similar and often overlapping. Most of the mature users discussed the role of the ePortfolio in their employment or employment searching activities:

- Helps you become more aware of what skills are useful and what skills are required in the employment sector
- I’m not using the ePortfolio this year but still using it as a ‘point of reference’ for future work
- I was able to see what worked well and what didn’t work well – helped me re-work areas, helped me work better

The mature users overwhelmingly agreed that the ePortfolio had assisted in the development of their reflective skills:

- It has immediately worked on future work I have undertaken; now I reflect on my tasks a lot more thoroughly
- I have placed reflective practice within the same network of the samples of work

Finally, mature users were asked to determine what level of impact, if any, their use of the ePortfolio had had on the process of applying for employment. Some mature users reported that they were already in employment when they using the ePortfolio in their university studies, so had not yet utilised it as part of a job application. Generally, respondents indicated that they had not submitted an ePortfolio to an employer but they would refer to the ePortfolio or select specific artefacts and components of it as they prepared an employment application:

- I haven’t used the whole thing, used it more like a ‘database’ where I can find resources or information of use for a particular area

One mature user was a manager in the health sector and was able to see the potential of the ePortfolio in selecting medical staff:

- We don’t do recruitment screening very well … I think if it were a recruitment screening tool which could then lead into – you know, they should be able to sell themselves without us asking them any questions, if the ePortfolio became the basis of an interview we could say ‘well, in here we’ve seen that you’ve done …’, it would just open it up so more.

One education student referred to the use of hard copy portfolios as part of the professional recognition process with the state education authorities, incorporating an application form, resume, academic achievement, practicum results and a 500-word reflective statement. A nursing student also indicated that the health authorities were also investigating the value of using portfolios in the application process.

Although the sample size was small, the mature user study revealed that the ePortfolio experience was generally a very positive one, contributing significantly to the students’ understanding of themselves as learners and as emerging professionals.

6.5 Australian ePortfolio Symposium activities

Towards the mid-point of the Australian ePortfolio Project the research team hosted a forum to bring together representatives of the different stakeholder groups that had an interest in ePortfolios in higher education. The Australian ePortfolio Symposium was held at the Kelvin Grove campus of QUT on 7 and 8 February 2008. In the lead up to the Symposium, on 6 February 2008, there were two further activities: the Australian ePortfolio Policy Meeting and the Australian ePortfolio Showcase. The showcase was an open event, attended primarily by symposium participants plus a few other interested parties who did not register for the symposium. The policy meeting was an invitation-only event, involving key stakeholders in ePortfolio policy issues.
The dates for the symposium activities were determined early on in the project: the event was promoted in the Australian ePortfolio Project brochure, bookmarks were distributed and invitations to the event were included in correspondence relating to the national audit and the regional focus groups.

6.5.1 Australian ePortfolio Policy Meeting

The policy meeting was attended by key players from diverse areas of ePortfolio activity in Australia (such as the AeP Steering Committee; representatives of the Department of Education, Employment and Workplace Relations (DEEWR), ePortfolio policy in UK (HEA, JISC), the Australian ICT in the education policy arena, related ePortfolio research activities in the VET sector and the professional and employer sectors. The goals of the meeting were:

- To discuss the policy, strategic planning and infrastructure issues associated with ePortfolio practice in higher education in Australia.
- To discuss a range of relevant policy issues, including new directions in higher education policy and ICT in education policy in Australia; ICT in education policy issues in the UK (for example, JISC initiatives and activities); ePortfolio policy issues in higher education in the UK (CRA, HEA and JISC).
- To consider the relevancy of AeP activities to current and emerging Federal education policies.
- To discuss the key issues in order to inform and guide the formulation of possible strategies and recommendations to be presented to the Australian Learning and Teaching Council.

The project’s international guests (Rob Ward, Director for the Centre for Recording Achievement and Associate Professor Angela Smallwood, Director for the Centre for International ePortfolio Development) attended the meeting, and a DVD presentation from Peter Rees Jones, JISC-CETIS, was viewed to accompany the discussion around ICT issues internationally.

The general outcomes from the policy meeting included:

- An increased awareness of ePortfolio engagement within the sectors
- A desire for some common interaction and guidance around ePortfolio practice in Australia
- Clarity around technology and interoperability issues
- A review of the international experience, particularly in the UK
- Acknowledgement of common goals between JISC and DEEWR.

6.5.2 Australian ePortfolio Showcase

The Australian ePortfolio Showcase was a half-day event held at QUT’s Gardens Point campus. A range of currently available ePortfolio applications was presented to help participants develop a deeper understanding not only of the type of tools that could support ePortfolio practice, but also of some of the issues associated with ePortfolios that would be explored and discussed at the symposium itself. Nine invited representatives discussed their ePortfolio applications — both custom-built and open source — stimulating discussion on the features and issues associated with each application. As noted in Section 1.6 of this report, the presentations included:

- Sakai
- Open Source Portfolios
- Mahara
- Blackboard (two presentations)
- PebblePad
- Desire2Learn
- CareerHub
- QUT Student ePortfolio.

The individual presentations may be viewed at the Australian ePortfolio Symposium website (www.eportfoliopractice.qut.edu.au/symposium/showcase.jsp). The showcase was attended by about 70 people, representing more than 20 different universities. Positive feedback was received regarding the value of reviewing and comparing different tools prior to the symposium.
6.5.3 Australian ePortfolio Symposium

The Australian ePortfolio Symposium provided an opportunity both to share and to gather information around ePortfolio use in the higher education sector. Over 200 people registered for this free event, representing 32 Australian and three New Zealand universities, together with representatives from the government, vocational education, secondary education, industry, recruitment and employment sectors. The main focus of the symposium was provided by the international speakers:

- Rob Ward, Director of the Centre for Recording Achievement (UK)
- Associate Professor Angela Smallwood, Director for the Centre for International ePortfolio Development (UK)
- Darren Cambridge, Associate Director of the Inter/National Coalition for Electronic Portfolio Research (USA).

The video recorded presentations for each of the international speakers are available to view or download on the Australian ePortfolio Symposium website (www.eportfoliopractice.qut.edu.au/symposium/program.jsp). In addition, a pre-recorded presentation on the Dutch ePortfolio experience in higher education was provided by representatives of SURF NL: Marij Veugelers, Community Manager with SURF NL, and Wijnand Aalderink, Member of the NL Portfolio Steering Committee.

Professor Grant Harman from the Centre for Higher Education Management and Policy at the University of New England detailed the work to date on the development of the Australian Higher Education Graduation Statement within the framework of the National Diploma Supplement. Members of the research team also presented a session to discuss the data collection activities conducted in the context of the AeP Project. The concept of ePortfolio maturity models was presented, with the Becta and SURF examples as illustrations (Harper & Hallam, 2008), with feedback sought from the delegates. It was generally agreed by the symposium delegates that this was a useful way to allow an institution to measure its ePortfolio preparedness and its technology capability, allowing benchmarking against other like institutions. It was felt that it was necessary to keep in mind that there was no ‘perfect answer’ and that any model should be able to support various levels of complexity and approach.

The research team believes that the original Becta model most closely fits the needs of the local environment and has undertaken preliminary work to adapt this model for use in the Australian higher education context (refer to Appendix). However, the team acknowledges that further work will be required in the future, as ePortfolio practice broadens and deepens at Australian universities, so that this first attempt should be treated as a Beta version to be discussed further across the sector.

As a further strategy to foster engagement and to encourage feedback, symposium participants were encouraged to capture their questions and thoughts triggered by the different sessions during the day by noting them on cards. The cards were then collected and reviewed at the end of the day.

The second day of the symposium allowed for further activities that encouraged participants to share and discuss ePortfolio issues. Associate Professor Angela Smallwood opened the day by reviewing the questions posed by delegates the previous day. The questions covered areas such as technology, interoperability, institutional policy, transportability between sectors, student and staff engagement and pedagogical applications:

- How do we motivate students to adopt a ‘Personal Development Portfolio’ approach to their learning journey?
- How should we influence a holistic approach to individual reflective practice as a learner-focused learning process?
- Given the popularity of social network sites, would it be a good idea to make ePortfolios mirror a similar format?
- If ePortfolios have a life beyond a course of study (as they must) who supports and maintains (design and technology) long term?
- What support do you propose for students who are not computer savvy?
- What about conflict with different ePortfolio systems in the one university?
How does the student show the 'shadows' for example, fails, lack of enthusiasm for a course or their non engagement?

Do we need a national policy or at least an institutional policy that makes ePortfolios a requirement?

How can you see ePortfolios working in the VET sector, with movement of students from VET – HE and from HE – VET?

Role modeling may be more important for the successful adoption of PDP ePortfolios than having good technology, easy access etc.

These questions also helped to prepare delegates for the group enquiry activity, which involved delegates allocating themselves to eight breakout groups, each of which had a specific focus that would appeal to the broad range of stakeholders attending the symposium:

- Transition into higher education (schools, VET)
- Pedagogy/learning outcomes
- Student experiences with ePortfolios
- Employability/transition into employment
- ICT issues for ePortfolios
- ePortfolio for academic development (for academic staff)
- ePortfolio policy development.

Each group had a facilitator who was either a member of the research team or was considered to be conceptually familiar with the specific topic area, as well as a scribe to take notes. The goal of the group enquiry activity was for the delegates to discuss the topic area from the perspectives that interested or concerned them and to develop up to three key questions that they would like the expert panel to respond to during the afternoon symposium session. Each group saved their questions to a PowerPoint slide. The eight slides were subsequently collected from the breakout rooms and collated into one PowerPoint file for the expert panel session. The scope of the questions posed by the groups included:

- **Transition into higher education (schools, VET)**
  - In regards to the UK experience how have the different sectors worked together to come up with commonality and transferability for an ePortfolio?
  - From the Australian perspective how is the eFramework Project involving the sectors (HE, schools, VET) to find some common ground around ePortfolios?

- **Pedagogy/learning outcomes**
  - How do we ensure that if we use ePortfolios our use is informed by what we know about learning?
  - How do we integrate learning objectives (graduate attributes and professional requirements), learning activities, skills and assessment into the ePortfolios in a way that reflects the learning process and in a way that is meaningful and relevant for students?
  - Are there common pedagogical principles that underlie portfolios? Do they exist?

- **Student experiences with ePortfolios**
  - Is ePortfolio a method for involving students in ‘creation’ not just discovering things — and the role of reflection in this?
  - What is the responsibility for this — students and universities and academics and professional bodies — re lifelong and lifelong learning? How do we engage the community?

- ** Employability/transition into employment**
  - Is it a process of development of learning skills and employability skills? Should this involve all parties? Is this more useful than tool itself?

- **ICT issues for ePortfolios**
  - Are the ICT issues dependent on the policies, requirements and the pedagogical use of ePortfolios? For example, issues around development vs. presentation portfolios, or, needs of different disciplines.
  - Is the prime single ICT issue portability? (Covering: interoperability, sustainability, access, storage of student information in ePortfolios)
• **ePortfolio for academic development (for academic staff)**

  What’s the driver? What’s the purpose? Why do it? Can purpose be mandated? Should eportfolio be used primarily for individuals’ reflective purposes or as an organisational tool for measurement and marketing — or for multiple purposes?

  How can the language of the discipline be used as a means for communicating ePortfolio value in an accessible way?

  Ownership — institutional ownership? Marketing tool? Mandated structure?

  Rewards and benefits (intrinsic and extrinsic). How can the concept of ePortfolio not be seen as yet another task?

• **ePortfolio policy development**

  Who owns the product/who owns the data? (Which data?) Institution? Student? Dependent on purpose? Standards for interoperability?

The panel of experts included the international guest speakers, Associate Professor Angela Smallwood, Rob Ward and Darren Cambridge (each of whom brought their own wealth of experience and expertise in ePortfolio policy, practice and research to the panel), Bob Paton, CEO of the Manufacturing Skills Council (who provided employer perspectives), and Professor Tom Cochrane, DVC (Technology, Information and Learning Support) at QUT (who represented the perspectives of academic policy, ICT and learning). The moderator for the session was Professor Sally Kift, Professor of Law and ALTC Fellow.

Given the wide ranging scope of the questions developed through the group enquiry process, the panel discussion was informative, with further views presented by delegates in the audience. The panel discussion was recorded; the video can be accessed at the symposium website (www.eportfoliopractice.qut.edu.au/symposium/program.jsp).

Many of the questions raised through the group enquiry process reflect the topics and themes discussed in Chapter 5, which reviews the issues relating to ePortfolio practice in higher education.

In planning the symposium, the project team did not overlook the ‘student voice’. A student panel was convened, consisting of six current or past students from different universities and TAFE colleges, to discuss their perspectives on ePortfolio use, especially in regards to careers and employment. The students were asked about their experience with ePortfolios, the perceived learning outcomes and also about using the ePortfolio for employment applications. Of particular interest to many delegates were the viewpoints presented by one postgraduate student, who believed that ePortfolios should be able to incorporate the social networking tools that were already used by students. The video recording of the student panel can be accessed on the symposium website (www.eportfoliopractice.qut.edu.au/symposium/program.jsp). Delegates reported on symposium feedback forms that they would have liked a similar panel to hear from academics using ePortfolio and hear about their experiences.

The Australian ePortfolio Symposium was regarded by delegates as a very effective forum for airing and discussing the range of issues relevant to the different stakeholders in the ePortfolio process. There was a keen interest to keep the energy, momentum and networking opportunities alive and to establish some form or forms of community, encompassing policy, practice and research that could potentially sustain and develop the engagement with ePortfolios in the higher education sector. These ideas feed into Chapter 8 of the report, which considers ways to effectively share ePortfolio practice in Australia.

### 6.6 Summary

The findings from the national audit revealed that there was a high level of interest in the ePortfolios in the context of higher education, particularly in terms of the potential to help students become reflective learners who are conscious of their personal and professional strengths and weaknesses, as well as to make their existing and developing skills more explicit. The audit revealed some interesting examples of the early adoption of good practice in different institutions, although this tended to be distributed across the sector.
The main findings indicated that:

- The greatest use was recorded in coursework programs, rather than research programs, with most of the implementation reflecting subject-specific or program-based activity, as opposed to whole of faculty or university activity.

- Staff use of ePortfolios tended to be sporadic, but more common amongst academic staff than professional staff.

- There was considerable exploratory interest in ePortfolios in tertiary education, with respondents reporting investigations into, plans for and imminent implementation of ePortfolios for learners.

- A wide range of tools was being used: the learning management system was the most common application, but paper-based systems, student web pages, blogs and wikis all featured. There was often an element of choice of tool, which underscored the climate of experimentation.

- The main uses for the ePortfolio by learners were the two dimensions of collecting evidence of learning and reflecting on their learning activities, generally in combination.

- There was an even balance between formative and summative assessment of the ePortfolio, with assessment focusing on different aspects: the ePortfolio as final product, the artefacts in the ePortfolio and student reflection on the process of developing their ePortfolio.

- Responsibility for implementation frequently rested with the individual teaching unit, although a centralised model of coordination by ICT services, careers and employment or teaching and learning support was occurring.

- ePortfolio policy was mainly the responsibility of the learning and teaching support division, with some emergent examples of collaboration across the institution; a good proportion of respondents revealed, however, that there were as yet no formal policies.

- Strategic direction was primarily offered by central learning and teaching divisions. In some cases, joint responsibility was attributed to high level committees encompassing academic interests, careers and employment and ICT services.

- Successful practice highlighted the need to embed or integrate ePortfolio activities into the curriculum; to have the clear commitment and buy-in from academic staff; to have a sound ICT infrastructure, adequate funding and overt support from high level champions; to develop strong linkages with university strategies and policies.

- There was an express desire to draw on best practice to share ideas, knowledge and experiences across the institution and across the sector. The Australian ePortfolio Symposium held in February 2008 was acknowledged to be an important first step in this process.

The focus groups and semi-structured interviews amplified and enriched the audit findings. There is a strong appreciation, especially at the grassroots level of the education sector where learners interact directly with educators, that there are significant opportunities for students to use ePortfolios to support their learning and career planning. The current state of play in Australian universities is fragmented, and while not yet equal to leading edge practice in other countries, reveals clear evidence of strong interest across the sector. The higher education sector should take advantage of the opportunity to bring together the different pieces of the ePortfolio puzzle to build a cohesive composition that will benefit individual students, the quality of learning and the value of higher education outcomes.

ePortfolio policy and practice in other countries seek to draw together the different elements of integrated education and learning, graduate attributes, employability skills, professional competencies and lifelong learning, ultimately to support an engaged and productive workforce. In terms of documenting students’ qualifications, achievements and learning outcomes within the context of international education, it is also important to consider the relationship with the Australian Higher Education Graduation Statement, which has been proposed as a strategy to support the portability and transparency of academic study. The following chapter reports on the Australian Higher Education Graduation Statement project and the potential relationship between the Graduation Statement and ePortfolios.
7. **The relationship between the National Diploma Supplement (Australian Higher Education Graduation Statement) and ePortfolios**

**Goal 4:** To examine the potential relationship with the National Diploma Supplement work being conducted by a consortium of universities led by the University of New England and the University of Melbourne

**7.1 Overview**

This chapter explores possible relationships between the ePortfolio and the recently recommended Australian Higher Education Graduation Statement (see Centre for the Study of Higher Education, 2008; Centre for Higher Education Management and Policy, 2008). It is anticipated that there may be a desire by graduates to include the Graduation Statement in their ePortfolio, or at least to draw on information provided in the Graduation Statement. With experience, universities might also, in time, need to consider whether particular information provided in ePortfolios might be suitable for inclusion in the Graduation Statement. However, given the relative infancy of these concepts, no formal assessment has been undertaken to determine the prospect of developments along these lines.

The proposed Australian Higher Education Graduation Statement will take the form of documentation provided to graduates by awarding institutions in addition to the degree or diploma certificate or testamur. Its purpose will be to make qualifications more portable and their value more transparent by providing descriptions of the nature, level, context and status of the studies that were pursued and completed by graduates, as well as information about the education system to which the qualification belongs.

ePortfolios share some common objectives with the Graduation Statement. Both provide relevant information on student experience and achievement. Both aim to assist students in the transition from higher education to work, and with their professional development. On the other hand, there are important differences. In particular, while ePortfolios are developmental and evolving in nature, with the student taking major responsibility for the selection of content, Graduation Statements relate to a single award conferred on an individual, are compiled at the completion of a course and so relate specifically to the record of achievement at one point of time and contain only authenticated information (with the higher education institution being responsible for the compilation, verification and authentication of this information).

How these two sets of information relate in the future will depend on the wishes of students, higher education institutions, professions and employers. Other issues that will need to be addressed relate to possibilities with regard to electronic data sharing between the two documents. This will, in turn, raise issues about interoperability of data systems, and the security and authenticity of Graduation Statement information. These issues spring from fundamental differences between the two types of information included in terms of their origin, responsibility for compilation, authenticity of the information and the priority given to data security. Whether the relationship between the two documents therefore becomes, at its most complex, one of data sharing, or at its simplest, one of cross-referencing between the two will depend on the resolution of these issues.

The following sections provide an overview of the Proposal for an Australian Higher Education Graduation Statement, which is currently before the Minister for Education, Employment and Workplace Relations, and outline the proposed model including the guidelines and sections to be included. A worked example of a Graduation Statement for a Bachelor of Business degree is provided as an illustrative guide (see Figure 7.1). This is followed by a discussion of the potential relationships between ePortfolio and the Graduation Statement.
7.2 The proposal for an Australian Higher Education Graduation Statement

On 10 January 2007, a consortium of universities was commissioned by the then Department of Education, Science and Training (DEST) to develop a single agreed template for an Australian Diploma Supplement. The consortium represented 14 universities led by the University of New England, University of Melbourne, and Australian National University. The objectives of the project were to develop an agreed template for an Australian Diploma Supplement (by whatever name it might be known) and to make recommendations on detailed implementation and management strategies.

7.2.1 Project overview

Through direct consultation with the sector, employer groups, students, and other significant stakeholders, the key recommendation was developed by the consortium of universities for the introduction of an Australian Higher Education Graduation Statement (AHEGS) that will be the Australian equivalent of the diploma supplement currently being provided to graduates by higher education institutions in some 45 European nations. The ‘Graduation Statement’ will take the form of documentation provided to graduates by awarding institutions in addition to the degree or diploma certificate or testamur. Its purpose will be to make qualifications more portable and their value more transparent by providing descriptions of the nature, level, context and status of the studies that were pursued and completed by graduates, as well as information about the education system to which the qualification belongs.

The Australian Higher Education Graduation Statement is strongly supported by Australian universities and other stakeholders who consider that its introduction will assist both domestic and international graduates from Australian higher education institutions seeking employment or further study opportunities abroad. It will also assist graduates seeking further study or employment in Australia. Graduation Statements have the potential to make Australian awards better understood internationally, thus enhancing the international mobility of Australian graduates and Australia’s competitiveness in the international higher education export market. Further still, the Graduation Statement will mark an important innovation in the higher education systems of the Asia-Pacific region.

7.2.2 Guiding principles

The principles below define the Graduation Statement that it is recommended all Australian higher education institutions should provide to graduating students on completion of the requirements for higher education awards. Note that ‘Principle 8’ speaks specifically to the relationship with ePortfolios.

<table>
<thead>
<tr>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Graduation Statement is a distinctively Australian document for presenting information regarding an award conferred on a graduate. It should be provided without charge to all graduates from higher education courses recognised within the Australian Qualifications Framework.</td>
</tr>
<tr>
<td>2. The purpose of the Graduation Statement is to provide details to assist graduates, employers, and education and training institutions both in Australia and internationally in understanding and recognising the nature and level of academic achievement in completion of an award. The Graduation Statement provides information to inform judgments for purposes that might include access to another academic program, employment, or the right to practice a profession. It is not intended to provide comprehensive information for each of these purposes and in certain instances additional information might need to be sought.</td>
</tr>
</tbody>
</table>

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3. The focus of the Graduation Statement is on a particular award conferred on an individual graduate. It is a statement of the nature of the award that has been conferred, the graduate’s academic achievements within that award, and the nature of the awarding institution and the Australian higher education system at the time of graduation. A single Graduation Statement can accommodate both combined degrees and ‘jointly badged’ degrees.

4. The Graduation Statement is compiled to summarise information that is factual and relevant at that time. It is date-stamped to indicate the date of issue.

Relationship to other documentation

5. A Graduation Statement is issued for each separate award that is achieved. Students who complete a number of awards will therefore receive a number of statements, each pertaining to a particular award conferred.

6. The Graduation Statement is issued in addition to the award ‘certificate’ or ‘testamur’ and any academic transcripts. For certain purposes, the Graduation Statement may need to be read in conjunction with an academic transcript, but in most cases it is intended to provide adequate information to satisfy the needs of employers, professional associations and other higher education institutions.

7. The Graduation Statement differs in content and purpose from academic transcripts. Academic transcripts may be issued at various times to students and graduates, whereas the Graduation Statement is awarded only at course completion. In addition, while the academic transcript is a progressive record of all studies undertaken at an institution, the Graduation Statement records only studies undertaken for a particular award.

8. The Graduation Statement also differs in content and purpose from ePortfolios. ePortfolios are maintained by students and may incorporate a broad range of authenticated and unauthenticated information, whereas the Graduation Statement is an institutional responsibility and contains only authenticated information.

Content and style

9. The Graduation Statement consists of five sections plus certification, comprising both core and optional elements. To ensure national consistency, the five sections are to be presented in a uniform sequence by all higher education institutions. The optional elements allow institutions to report information (such as workplace learning) that may be characteristic of their overall mission, objectives and awards, and the special achievements of individual graduates.

10. The content of each Graduation Statement should conform to agreed national specifications. All information presented should be factual and should be free from any value judgments or equivalence statements but may include information about professional recognition and registration where appropriate. The document seeks to provide sufficient information to assist users in making judgments but avoids inclusion of detail that could cause confusion. Where appropriate, reference is made to other information sources that could be consulted, especially university, college and/or government websites.

11. Issuing institutions will design the layout of their Graduation Statements to suit their particular style requirements, which may include institutional logos and other style elements.

12. All Graduation Statements issued by Australian higher education institutions will use the name ‘Australian Higher Education Graduation Statement’ and provide an agreed statement explaining the purpose of the document.
13. The following statement on the purpose of the Graduation Statement is recommended:

The Australian Higher Education Graduation Statement is provided by Australian higher education institutions to graduating students on completion of the requirements for a particular higher education award. It provides a description of the nature, level, context and status of the studies that were pursued by the individual named. Its purpose is to assist in both national and international recognition of Australian qualifications and to promote international mobility and professional recognition of graduates.

Issuing and authentication

14. Awarding institutions are responsible for compiling, issuing and archiving Graduation Statements, and for the authentication of all information presented.

15. Particular elements of the Graduation Statement may require differing processes for institutional verification. Institutions will determine the verification procedures appropriate to their systems and purposes.

16. The Graduation Statement will be issued in hard copy and, when feasible, also in electronic format in order to maximise the utility to graduates. Appropriate techniques should be used to make formats secure and institutions should take appropriate action to minimise the possibility of forgery and misrepresentation. Recognising the lower security levels of electronic documents, the hard-copy format should be treated as the primary document. Institutions will be responsible for providing a verification mechanism for stakeholders who seek to verify the authenticity of a Graduation Statement.

17. It is not anticipated that Graduation Statements will be issued retrospectively to graduates who graduated prior to institutional implementation.

7.3 Sections included in the Graduation Statement

The Graduation Statement consists of five sections comprising a number of elements. Some items are optional for institutions or particular awards (noted here in italics):

- ‘The graduate’ (full name, date of birth and student number)
- ‘The award’ (name and summary details of the award; any features such as placements, industry-based learning, or overseas study; plans to use the award as a pathway to further study; any relevant external course accreditation uses)
- ‘Awarding institution’ (a brief, preferably a one or two sentence description of the institution, including type (public/private), date of founding and legislation of establishment)
- ‘Graduate’s academic achievements’ (course details and key to grading; additional course details, including any course related achievements of the graduate; special achievements, recognition and prizes)
- ‘Description of the Australian higher education system’ (a brief description of the Australian higher education system as approved by DEEWR and the AQF Advisory Board Secretariat).
7.4 Graduation Statement example

The following example of a Graduation Statement for a Bachelor of Business degree, including failing grades, is based on the guiding principles and the specification of what information is to be included, as set out in the guidelines. Further worked examples for a Bachelors degree without failing grades, a Bachelors degree with honours, a Masters degree by research, and a PhD degree are provided in the Proposal for an Australian Higher Education Graduation Statement final report at http://www.une.edu.au/chemp/projects/dipsup

While each issuing university and higher education provider is expected to follow the guidelines and provide specified information under the five sections, the layout in each case will be determined according to institutional practice, with institutions making their own decisions with respect to optional elements. In the example that follows the academic record is presented in the style used by one particular Australian university simply for illustrative purposes. However, it is expected that each university will follow its own style in presenting information and including details from academic transcripts. The description of the Australian higher education system used in the examples is the DEEWR and the AQF Advisory Board Secretariat approved text.

![Graduation Statement Example](image_url)
4. graduate’s academic achievements

Course details:

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<th>Status</th>
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</tr>
</thead>
<tbody>
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<td>03 MARCH 2003</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Mark</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**UNDERGRADUATE - BACHELOR OF BUSINESS**

**2000 Semester 1**
- BAC02441 Personal Financial Planning
- BAC3306 Auditing
- BAC3307 Corporate Finance
- BAC3308 Advanced Financial Accounting

**2000 Semester 2**
- BAC3312 Advanced Management Accounting
- BAC3316 The Practising Accountant and Technology
- BAC3317 Managerial Accounting Technology
- BBE3100 Business Integrated Learning

**2001 Semester 1**
- BBE2300 Commercial Law
- BAO1101 Financial Accounting
- BAO2203 Corporate Accounting
- BAO2204 Management Accounting
- BAC3306 Auditing

**2001 Semester 2**
- BAO2208 Computerised Accounting Information Systems
- BIL01171 Introduction to Marketing
- BLQ2205 Corporate Law
- BLQ2206 Taxation Law and Practice
- BAC3312 Advanced Management Accounting

**2002 Semester 1**
- BAC1101 Accounting for Decision Making
- BAC1107 Accounting Information Systems
- BCO1102 Information Systems for Business
- BEO1103 Microeconomic Principles

**2002 Semester 2**
- BEO1104 Macroeconomic Principles
- BEO1106 Business Statistics
- BEO1115 Business Law
- EMS1102 Management and Organisational Behaviour

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*graduation statement*

page 2 of 4
Chapter 7: The relationship between …

Key to grading:
The final pass grades for individual units within the course are as follows:
- High Distinction (80-100)
- Distinction (70-79)
- Credit (60-69)
- Pass (50-59)
- Passed at Supplementary Examination (50)

The final fail grades for individual units within this course are as follows:
- Fail (0-49)
- Not Completed/Fail (Did not complete all prescribed requirements)
- Withdrawn/Fail (Failure after specified date and before end of semester)

Additional course details:
From 3 January 2002 to 13 February 2002 completed period of full-time supervised workplace training with Smith and Brown Accounting, 123 Elizabeth Street, Melbourne.

5. Description of the Australian higher education system

Introduction
The Australian higher education system consists of independent, self-governing public and private universities and higher education institutions that award higher education qualifications. All higher education providers must be listed on the Australian Qualifications Framework Register of Recognised Education Institutions and Authorised Accreditation Authorities in Australia. This register is developed under instructions from Commonwealth, State and Territory Education and Training Ministers (See: http://www.aqf.edu.au/register.htm).

Qualifications
The Australian Qualifications Framework (AQF) is a single national and comprehensive system of qualifications offered by higher education, vocational education and training, and secondary schools. The AQF comprises a set of national qualifications (ie awards), titles and qualification descriptors (See accompanying diagram). The AQF specifies the main criteria for defining qualifications based on the general characteristics of learning outcomes at each qualification level. The main qualifications awarded by higher education institutions are bachelor's, masters and doctoral degrees, and graduate certificates and graduate diplomas. Research higher degrees at masters and doctoral level are normally assessed by external examiners. The higher education qualifications descriptors are periodically reviewed against best national and international practice. Guidelines for each qualification title are published in the Australian Qualifications Framework Implementation Handbook (http://www.aqf.edu.au/implement.htm).

Admission
Requirements for admission to particular programmes are set by individual universities and colleges that generally provide a range of routes for entry and admit those students considered to have potential to successfully complete programmes of study. Admission of school leavers to undergraduate programmes typically is on the basis of the level of achievement in Year 12 secondary education, although some institutions and programmes also use interviews, portfolios or demonstrated interest or aptitude. Most institutions also provide alternative entry provisions via bridging or foundation programs for mature age students or other special provisions. Admission to post-graduate programmes is generally based on the level of achievement in previous higher education studies; in most cases, admission to PhD programmes is based on high achievement in a research masters degree or in a bachelor's degree with first class honours or second class honours division A.

Quality
Australia has an international reputation for high quality education that is based on best practice in accreditation, quality recognition, quality assurance, and student consumer protection. All higher education institutions must be accredited by State and Territory Governments in accordance with strict criteria detailed in the National Protocols for Higher Education Approval Processes. These Protocols are nationally agreed principles that ensure consistent criteria and standards across Australia in such matters as the recognition of new universities, the operation of overseas higher education institutions in Australia, and the accreditation of higher education courses offered by institutions other than universities (See: http://www.dest.gov.au/highereducation).
All institutions receiving Australian Government financial support must meet quality and accountability requirements that are set out in the Higher Education Support Act 2003. The Australian Government also uses a range of tools to measure and monitor the quality of outcomes, while the interests of international students are protected by the Education Service for Overseas Students Act 2000 and its National Code, providing tuition and financial assurance and a consistent approach to institution registration.

Australian Universities are autonomous bodies that are responsible for managing quality through internal accreditation processes and commitment to codes of practice. Universities and other higher education providers are required by legislation to have in place appropriate quality assurance processes. These processes are periodically audited by the Australian Universities Quality Agency (AUQA).

AUQA is Australia’s principal national quality agency for higher education. It is an independent body that undertakes quality audits of higher education institutions and accreditation authorities (See: http://www.auqa.edu.au). AUQA publicly reports on performance and outcomes, assists in quality enhancement and advises on quality assurance.

**Australian Qualifications Framework**

<table>
<thead>
<tr>
<th>Schools Sector Qualifications</th>
<th>Vocational Education and Training Sector Qualifications</th>
<th>Higher Education Sector Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Secondary Certificate of Education (SSCE)</td>
<td>Vocational Graduate Diploma</td>
<td>Doctoral Degree</td>
</tr>
<tr>
<td></td>
<td>Vocational Graduate Certificate</td>
<td>Masters Degree</td>
</tr>
<tr>
<td></td>
<td>Advanced Diploma</td>
<td>Graduate Diploma</td>
</tr>
<tr>
<td></td>
<td>Diploma</td>
<td>Graduate Certificate</td>
</tr>
<tr>
<td></td>
<td>Certificate IV</td>
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<td>Certificate III</td>
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</tr>
<tr>
<td></td>
<td>Certificate II</td>
<td>Diploma</td>
</tr>
<tr>
<td></td>
<td>Certificate I</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 7.1:** Example of the Australian Higher Education Graduation Statement
7.5 Relationship between ePortfolio and the Graduation Statement

It is anticipated that students may wish to include the Graduation Statement in their ePortfolio, or include information drawn from the Graduation Statement, and that universities may wish in time to include some information from the ePortfolio on Graduation Statements. However, given the relative infancy of these concepts, no formal assessment has been undertaken to determine the willingness of the sector and students to move in this direction.

The Graduation Statement is a secure document containing authenticated information regarding a single academic award conferred on an individual, and is compiled and verified by the awarding institution. As such, it is conceived as a static snapshot at the time of graduation. The concept of an ePortfolio, on the other hand, is a dynamic, continually evolving resource, containing both authenticated and unauthenticated information about a broad range of academic and non-academic activities and achievements.

As Table 7.1 indicates, ePortfolios and the Australian Higher Education Graduation Statement differ significantly in their content and purposes. Nevertheless, the potential relationship between ePortfolios and the Graduation Statement is significant.

Table 7.1: Relationship between the ePortfolio and the Australian Higher Education Graduation Statement

<table>
<thead>
<tr>
<th>ePortfolio</th>
<th>Graduation Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information pertaining to a broad range of activities and achievements, including academic and non-academic achievements</td>
<td>Information pertaining to a single award conferred on an individual</td>
</tr>
<tr>
<td>Maintenance is an individual responsibility (possibly with institutional guidance plus framework)</td>
<td>Compilation, verification and authentication the responsibility of the award granting institution</td>
</tr>
<tr>
<td>Contains authenticated and unauthenticated information</td>
<td>Contains only authenticated information</td>
</tr>
<tr>
<td>Continually evolving</td>
<td>Static, a snapshot of information compiled at a particular point in time (that is, upon graduation)</td>
</tr>
<tr>
<td>Certain information stored in an ePortfolio might be later authenticated by institutions for inclusion in a Graduation Statement</td>
<td>Once issued, a Graduation Statement might be included in a student's ePortfolio</td>
</tr>
<tr>
<td>Document security may not be a high priority</td>
<td>Document security a high priority</td>
</tr>
</tbody>
</table>

It is obvious that there is a relationship between the notion of ePortfolio and the proposed Graduation Statement. However, there are a number of issues that will need attention at the sector and institutional levels if such a relationship is to be formalised through electronic data sharing between the two documents. The issues that arise include the interoperability of data systems (see Leeson, 2008, for a detailed discussion on this issue), security and the authenticity of Graduation Statement information. These issues arise due to the fundamental difference between the two types of information included in terms of their origin, responsibility for compilation, the data systems upon which they sit, the authenticity of the information, and the priority given to data security.

Whether the relationship between the two documents therefore becomes, at its most complex, one of data sharing, or at its simplest, one of cross-referencing between the two documents will depend upon the resolution of these issues around security and interoperability of data systems.

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7.5.1 Inclusion of Graduation Statements in ePortfolios

Graduates may wish to include Australian Higher Education Graduation Statements (along with other official documentation such as their testamur and academic transcript) in their ePortfolio as an institutionally authenticated statement of their academic achievements. This would require the Graduation Statement to be in an electronic format, which poses considerable difficulties with regard to security and authenticity. The project team has recommended that — initially — Graduation Statements should be available only in hard copy. Recommendation 16 of the Proposal for an Australian higher education statement states as follows:

The Graduation Statement will be issued in hard copy and, when feasible, also in electronic format in order to maximise the utility to graduates. Appropriate techniques should be used to make formats secure and institutions should take appropriate action to minimise the possibility of forgery and misrepresentation. Recognising the lower security levels of electronic documents, the hard-copy format should be treated as the primary document. Institutions will be responsible for providing a verification mechanism for stakeholders who seek to verify the authenticity of a Graduation Statement.

However, inability to make Graduation Statements available in electronic form may limit, to some extent, the objective of enhancing the global mobility and employability of graduates. Providing graduates with the opportunity to include electronic Graduation Statements in their ePortfolios raises both technical and management issues. Assuming that electronic Graduation Statements potentially will be viewed with suspicion given the lack of security of digital documents, some form of easily accessible online verification via institutional websites may be necessary.

7.5.2 Inclusion of ePortfolio information on Graduation Statements

There is scope within the proposed model for Graduation Statements and within the recommendations to the Minister on its implementation for other elements to be included. Recommendation 2(c) of the final report (CHEMP & CSHE, 2008, p. ix) states that the Graduation Statement will:

consist of five sections plus certification, comprising both ‘core’ and ‘optional’ elements. To ensure national consistency, the five sections are to be presented in a uniform sequence by all higher education institutions. The optional elements will allow institutions to report information (such as workplace learning) that may be characteristic of their overall mission, objectives and awards, and the special achievements of individual graduates.

ePortfolio information could potentially be included under the optional elements, that is, ‘Additional course details’ or ‘Special achievements, recognition and prizes’ under ‘Graduate’s academic achievements’ of the Graduation Statement. However, the question then becomes what type of ePortfolio information would be appropriate for inclusion in a Graduation Statement? While there is scope for different institutions to respond in different ways with regard to the optional elements of the Graduation Statement, any information to be included must be information that institutions have the capacity to systematically collect and verify. It also would be desirable for institutions to develop uniform institution-wide policies on what information is to be included, since tailoring Graduation Statements to the wishes of individual students would considerably increase costs and administrative difficulties. Additional information, for example, could well relate to participation in leadership activities, community service projects or workplace projects. It would also be possible for institutions to include information on graduate attributes, although employers have indicated clearly their view that only authenticated information about individual achievements should be included.

7.6 Summary

Should the higher education sector — at some future time — wish to change the format of the Graduation Statement, it would be necessary, in the interests of national consistency for DEEWR, to initiate consultations with universities and other higher education institutions. However, under the current recommendations there is considerable scope for discretion by institutions as to what authenticated information they include on the Graduation Statement.
8. WAYS TO SHARE EPORTFOLIO PRACTICE IN AUSTRALIA

Goal 5: To recommend ways to share excellent practice in the implementation and use of ePortfolios

8.1 Overview

During the course of the Australian ePortfolio Project, it became apparent that many teaching staff in universities were concerned about the silo-based culture that frequently developed in their institutions. While there are many new initiatives that introduce exciting and innovative teaching and learning practices into the curriculum, it was felt that all too often academics were working autonomously, with little opportunity to share ideas and expertise. This resulted in the wheel being reinvented on multiple fronts, both within the individual institution, across disciplines and across the higher education sector as a whole. The situation becomes more complex as new educational technologies are developed, with individual staff independently trying out new strategies to design, develop and deliver engaging learning activities for their students.

Some institutions seek to address these problems through some form of collaborative approach, be it through a working party, a task force or even a committee. An alternative model moves into the domain of more informal and fluid networking, with the development of a community of people, local or distributed, who seek ‘to generate and appropriate a shared repertoire of ideas, commitments and memories’ (Smith, 2003). Their interest in organising themselves around a specific topic or area of knowledge offers them ‘a sense of joint enterprise and identity’ (Smith, 2003). From this shared enterprise, a ‘community of practice’ can evolve. Wenger (2002) defines communities of practice as ‘groups of people who share a passion for something that they know how to do and who interact regularly to learn how to do it better’.

Communities of practice have a special role to play in areas of emerging practice. In certain situations, people may be interested in a specific idea, technology or activity, but not yet fully understand or know ‘how to do it’. Churchman and Stehlik (2005) argue that the value of communities of practice is particularly pronounced in times of emergent practice or rapid change. Tennant (1997) has suggested that new knowledge and learning are properly conceived as being located in communities of practice, where there is the potential to address problems that are relatively unstructured, ‘to share knowledge outside of the traditional structural boundaries’ and to work around the potential problems of slow-moving hierarchies in organisations (Lesser & Storck, 2001). While the authors consider the value of communities of practice within the immediate context of commercial organisations, the principles they discuss also apply to academic institutions.

The landscape of ePortfolios represents one example of emerging practice in Australian higher education that is currently attracting considerable interest. The research activities that have been central to the Australian ePortfolio Project have revealed that a significant number of people are interested in the use of ePortfolios in learning, in transition into employment and in career development. However, comments from research subjects have indicated that many of these people feel that they are currently working in isolation and are keen ‘to make meaning or sense of their situation and ways in which to negotiate their professional identity in the new context’ (Churchman & Stehlik, 2005). The research team strongly believes that the Australian ePortfolio Project presents opportunities to engage the Australian higher education sector in that ‘sense of joint enterprise and endeavour’ (Smith, 2003). Following an overview of the concept of communities of practice in higher education, some international examples of ePortfolio communities of practice are presented as models that might guide the establishment of some potential options that could support engagement with ePortfolios through the areas of policy, research and practice.
8.2 The role of communities of practice in higher education

Social constructivist learning theories emphasise the importance of collaboration between learners: ‘Learners construct their own reality or at least interpret it based on their perceptions of experiences, so an individual’s knowledge is a function of one’s prior experiences, mental structures and beliefs that are used to interpret objects and events’ (Jonassen, 1991). Beyond this, one specific aspect of social constructivism is the concept of situated learning, where learners become involved in activities that are directly relevant to the application of their learning (Brown, Collins, & Duguid, 1989). These ideas are central to the model of situated learning developed by Lave and Wenger (1991), which proposed that learning involves a process of engagement in a ‘community of practice’. The authors argue that learning is a process of participation in communities of practice, participation that is ‘at first legitimately peripheral but that increases gradually in engagement and complexity’ (p. iii).

Communities of practice are ‘groups of people who informally share, develop and diffuse learning, knowledge and practice’ (Churchman & Stehlik, 2005); they develop around things that matter to people (Wenger, 1998), so that the organisation around a specific area of knowledge and activity offers members ‘a sense of joint enterprise and identity’ (Smith, 2003). Inevitably, the community should link back to ‘practice’, so that ideas and activities are shared and further developed within the community itself. As such, the process is integral to the nature and attributes of the academic environment, both within and across institutions. Wenger (1999) has identified three dimensions that define the role and purpose of a community of practice:

- What it is about: Its joint enterprise as understood and continually negotiated by its members
- How it functions: Mutual engagement that bind members together as a social entity
- What capability it has produced: The ‘shared repertoire’ of communal resources (routines, sensibilities, artefacts, vocabularies, styles etc) that members have developed over time

(Wenger, 1999, pp. 73–84)

The use of ePortfolios in higher education is an emerging area of interest to many academic stakeholders: teaching staff, students, instructional designers, academic managers, IT directors and careers and employment staff. The high level of interest and engagement from delegates attending the Australian ePortfolio Symposium, held in early February 2008, intimated that there was indeed immense potential for the project team to consider future strategies that would allow the current knowledge and experience of people to be placed ‘at the centre of a process of dialogue and collaborative enquiry that can lead to transformative learning out of which new identities and practices emerge’ (Newell Jones, 2006).

The theme of the 2008 conference of the Higher Education Research and Development Association of Australasia (HERDSA) was ‘engaging communities’. Members of the Australian ePortfolio Project team were invited to lead one of the extended symposium sessions at the conference. With delegates attending from both Australia and New Zealand, discussion focused on the opportunities to foster deeper engagement with the policy environment, practice issues and collaborative research initiatives in the region. As a good proportion of the symposium participants had also attended the AeP Symposium, it was felt that the forum itself had aroused good levels of interest, energy and interaction, and that these could potentially be developed further. One of the critical issues, however, is to determine what form or forms might best suit the ‘emerging community’.

8.3 Examples of international communities of practice to support ePortfolio activities

Interest in and activities around ePortfolios in education have been in place for a considerable period of time in the northern hemisphere. There are examples of ePortfolio communities of practice that have been established in Europe (specifically the Netherlands and the UK) and also in the USA.

The European Institute for eLearning (EIfEL) was established in 2001 as an organisation that could focus on the policies and practices underpinning the ‘knowledge economy’ and ‘learning society’ concepts.
The notions of learning technologies, reflective practice and lifelong learning are central to EIfEL’s activities. EIfEL is a membership organisation that began as a tight-knit community but has since opened up to a broader membership base of both individuals and organisations, embracing the spectrum of stakeholders in the eLearning environment. Members are informed about and guided in their professional practice through a series of activities that include research projects, pilot programs, special interest groups, workshops, conferences and consultancy. The organisation has a specific role to play in supporting the initiatives introduced by the European Parliament, such as the Europass (2004), which seeks to become a single transparent framework for individuals to present their qualifications and competencies. In response to this, EIfEL developed the ‘ePortfolio for all’ as their objective for 2010. The campaign has provided a focal point for their activities, such as the International ePortfolio conferences, European Portfolio Initiatives Coordination Committee (EPICC) and the European Consortium for the ePortfolio (Europortfolio). Further information on EIfEL can be found on their website (www.eife-l.org).

There are further communities of practice in individual European countries, such as the Netherlands. The organisation SURF has a longer history, evolving in response to government policy issues in the 1980s, with Dutch universities challenged to develop and introduce ideas associated with the use of information and communication technologies (ICT) in higher education. SURF and its activities are primarily funded by the academic partners (research intensive and applied science universities) and the government Ministry of Education, Science and Culture and the Ministry of Economic Affairs. NL Portfolio is a special interest group (SIG) within SURF, established in 2004, which aims to ‘combine, share and develop further the knowledge in the field of digital portfolios in higher education’ (SURF NL, 2008). One fractional staff position is funded by SURF for administration of the SIG. The activities of NL Portfolio currently encompass:

- setting up a portal site for e-portfolio in higher education in the Netherlands
- participating in different project tenders in the field of e-learning in the Netherlands
- starting up a work group around scaling up Eportfolio in Higher Education Institutes
- cooperating in the international field on e-portfolio
- exploring and developing the theme of life long learning in the Netherlands, in cooperation with partners in education, in government and in employment
- being one of the organisers of Eportfolio 2008 conference in October in Maastricht
- disseminating practice through congresses, seminars, etc.

(SURF NL, 2008)

Accordingly, the NL Portfolio team coordinates research projects across the higher education sector, to explore the potential for ePortfolios in learning and assessment and to support academics with scalability issues as they move out of the experimental phase of ePortfolio practice to face the challenges of implementation at the institutional level. Limited funding is offered for a number of small projects that draw on the distributed enquiry process to resolve a range of questions associated with ePortfolio practice. Knowledge is shared via the NL Portfolio portal, publications, seminars and congresses. Recent work at NL Portfolio has included a study closely related to the Australian ePortfolio research project, examining ePortfolio practice in a number of Dutch universities (Aalderink & Veugelers, 2007). International collaboration is also a key focus of the NL Portfolio activities.

In the UK, ePortfolio activity was also initially stimulated by government policy, with the National Committee of Inquiry into Higher Education, chaired by Sir Ron Dearing (1997) recommending the development of ‘Progress Files’ that consisted of a formal academic transcript and the ability to record and reflect on personal development (PDP). The Centre for Recording Achievement (CRA) operates as an Associate Centre of the Higher Education Academy (HEA), with a specific focus on supporting higher education institutions and their communities with the implementation of Progress Files, personal development planning and ePortfolios (CRA, 2008b). The CRA has a membership that encompasses major higher education institutions, smaller organisations and individuals, providing a forum for dialogue about policy and practice in the area of ePortfolios. The organisation has close links to the Joint Information Systems Committee (JISC), the Quality Assurance Agency (QAA) and, of course, the HEA. The CRA has compiled a number of case studies on ePortfolio practice in diverse universities and has contributed to the development of communities of practice within and across institutions, for example, the University of Manchester (O’Connell, n.d.).
Once again, the international perspective comes to the fore. The CRA plays a leading role in the Inter/National Coalition for Electronic Portfolio Research (2008). This agency, as the National Coalition, was established in the United States in 2003 to promote research on ePortfolio practice at colleges and universities. As it was felt that practice was in fact outpacing research in many areas of ePortfolio activity, the coalition was founded to engage institutions in collaborative research efforts, using a cohort model. Each cohort is composed of about ten higher education institutions that commit to a three-year research project. Cohorts I and II involved US institutions, but UK and European universities have been involved in Cohorts III and IV. Cohort V (2008–2011) was convened in August 2008.

Within the Inter/National Coalition, the research activities focus on both a question important to the institution’s local practice, as well as on a cohort-wide enquiry into a common question, so that the investigative activities build on and contribute to scholarly theory and research into a range of learning, eLearning and organisational issues. The research teams are thus generally multidisciplinary in composition, with academic teachers, IT staff, learning support staff etc. There are two face-to-face meetings in the three-year cycle, with some overlap between the different cohorts to ensure knowledge and experience is transferred between the groups. There are also two teleconferences with the coalition leader each year. The coalition website acts as a portal for resources, and virtual meetings are convened via discussion forums and webinars (D. Cambridge, personal communication, February 22, 2008).

The convenors of the Inter/National Coalition facilitate a virtual community of practice through the Electronic Portfolio Action and Communication (EPAC) wiki and blog (EPAC, 2008). The commentator Helen Barrett also tracks ePortfolio research activities, primarily from the perspectives of US work (Barrett, 2008).

The Electronic Portfolio Consortium, or ePortConsortium (eportconsortium, 2008) is a collaborative venture established by a group of US universities. The consortium comprises academic institutions and ICT organisations and focuses on the ePortfolio application environment, working towards appropriate definitions, and standards to support and encourage interoperability and transportability between ePortfolio systems. There are three types of membership: conceptual members, namely individuals who are interested in the conceptual or technical issues of ePortfolios; invited corporate members with an interest in the technical standards, participating in technical meetings and protocol development; and developing members, such as, higher education institutions using the Epsilen ePortfolio software system. The consortium currently has members in 67 different countries, with around 850 corporate members and over 1000 conceptual members. There is a collaboration group site that provides the opportunity for members ‘to discuss and share know how, documents, case studies, and information about ePortfolio initiatives and projects within their institutions’ (eportconsortium, 2008).

The ePortfolio standards community is represented by a number of agencies that encourage strategic and technical collaboration. In the UK, the JISC Centre for Educational Technology Interoperability Standards (JISC CETIS, 2008a) is a partnership of a number of higher education and further education institutions that receives funding from JISC. Representatives of JISC CETIS collaborate in a number of forums that explore and develop international educational standards, for example, internationally with the IMS Global Learning Consortium (IMS, 2008a) which has developed an international ePortfolio specification model (IMS, 2005) and nationally with LEAP 2.0, which is based on Semantic Web concepts (JISC CETIS, 2008b) and the Portfolio Interoperability Prototyping (PIOP) project (JISC CETIS, 2008c). Representatives from JISC also collaborate in the eLearning framework and tools program with other international parties, such as SURF NL, Industry Canada, the New Zealand Ministry of Education and the Australian Department of Education, Employment and Workplace Relations (DEEWR) to encourage the potential for common service definitions, data models and protocols. JISC plays an important role in disseminating information on learning technology standards via workshops and conferences.

JISC CETIS coordinates a Portfolio special interest group (SIG) to inform and support communication between people working with Portfolios, with a website, e-lists and, more recently, a wiki (JISC CETIS, 2008d). Highlighting the opportunities for cross-sector collaboration, this Portfolio SIG is administered by CRA.

The ePortfolio community in the UK receives support for research and development through JISC funding. In Section 1.5 of the report, it was noted that JISC has identified four key purposes for ePortfolios: supporting application, supporting transition, supporting learning, teaching and assessment, and supporting personal development planning (PDP) and continuing professional development (CPD). This conceptual framework gains further maturity through the targeting funding of projects, for
example, the use of ePortfolios to ‘support application’ sees the funding of research into projects that investigate issues associated with the application process into university, through the University and College Admission Services (UCAS) system or through direct entry options, or the issues associated with applying for jobs or work placements. The JISC ePortfolio website provides links to the diverse projects that it supports, which include the ‘fit for purpose’ projects, as well as the technical development initiatives and some guidance for institutions (JISC, 2008a).

The higher education policy environment is seen to be a critical factor in the JISC context, specifically in terms of the ‘lifelong and personalized learning policy drivers [that] propose that all learners should be able to (electronically) develop, record, repurpose and transfer a wide range of information about themselves as they progress through different levels and episodes of learning, training and employment’ (JISC, 2008b). Agencies such as CRA, on the other hand, are concerned with the practitioner perspectives of ePortfolios, especially to support research into practice, with the practitioner often a novice researcher. Encouragement and support is being offered to ePortfolio practitioners engaged in research projects through the National Action Research Network on Researching and Evaluating Personal Development Planning and ePortfolio (NARN) (CRA, 2008b). This network project is being run as part of the HEA National Teaching Fellowship Scheme and is managed by academic staff at the University of Bolton and the University of Worcester in conjunction with CRA. The project involves practitioners from 16 higher education institutions becoming involved in ‘participant action research on the research and evaluation process’ (HEA, 2008b) to build the capacity for robust research and to build a stronger evidence base for understanding the impact of ePortfolios on students. The National Union of Students (NUS) is also involved in the project. Members of the network will operate on three levels: national, regional and institutional. Four events are planned at the national level to discuss and share the conceptual ideas: the theoretical model, possible research designs, the planning and reporting of issues etc. At the regional level, participants will attend six meetings that will focus on the action research process itself, to build a community of informed critical friends. At the institutional level, participants will be directly involved with the research and evaluation activities.

An alternative community of practice model has been established as a geographically-based entity, with the Scottish PDP Forum. The forum is jointly managed by HEA, QAA Scotland and CRA, with the aims of discussing areas of common interest, sharing effective practice and identifying other forms of institutional level support (HEA, 2008c). The priorities for members of the forum have been identified for the coming year, with a strong focus on collaboration and networking. The members are interested in both discipline-specific and multi-disciplinary research activities and see the Scottish PDP Forum as the opportunity to build links via individual members to other networks such as NARN and the Inter/National Coalition, as well as the opportunity to submit collaborative bids for funding or to develop shared resources such as toolkits and resources for students.

The UK has further avenues of support for specific academic communities through their Centres for Excellence in Teaching and Learning (CETLs) and Subject Centres. Seventy-four CETLs were established in England in 2005 by the Higher Education Funding Council for England (HEFCE), with a further seven created in Northern Ireland by the Department for Employment and Learning (HEA, 2008d). The CETLs seek to recognise and promote excellence in teaching, covering a wide range of disciplines and pedagogical research. In line with the role played by CETLs to help shape and influence institutional policies for learning and teaching development, share good practice across the higher education sector, and participate in evaluation and research to inform future developments in policy and practice, the Centre for the Advancement of Integrative Learning at the University of Nottingham includes an ePortfolio strand that focuses ePortfolio developments and initiatives (University of Nottingham, 2008b). This CETL has, together with JISC, hosted workshops to bring together the various stakeholders in ePortfolio development, specifically at a time when there is recognition of ‘the growing relevance of e-portfolio developments in strategic plans and drivers in government and in higher education’ (University of Nottingham, 2006).

The HEA in the UK also provides discipline-specific support through the 24 Subject Centres (HEA, 2008a). The Subject Centres facilitate the communication between academics in related fields, with the websites providing access to resources such as case studies, research reports and funding opportunities. The discipline focus in ePortfolio practice becomes increasingly important when there is the need to align qualifications and career development with professional standards (for example, in the health sciences and engineering).
8.4 Options for establishing communities of practice to support ePortfolio activities in Australia

Compared with the diverse examples of ePortfolio communities that have been established, and continue to evolve, internationally, particularly in the UK, Australia has as yet seen very little activity. Building on both the knowledge gained during the present project and on earlier work undertaken by JISC and CRA in the UK, the research team is currently developing a preliminary ‘ePortfolio Toolkit’ to provide guidance to the diverse stakeholders about the issues they need to consider and the approaches they can take to introduce an ePortfolio project at their institution.

The national audit findings and the regional focus group discussions supported the initial literature review and environmental scan to paint a picture of individual pockets of ePortfolio activity across the higher education sector, with committed and enthusiastic teaching staff working with their students to develop their ePortfolios. There are a growing number of journal articles and conference papers in the higher education literature addressing the issues of ePortfolios, although it can be argued that the majority of these papers showcase innovative practice, with little rigorous evaluation of the projects.

To date, there have been a small number of dedicated ePortfolio symposia in Australia: EIfEL hosted the ePortfolio Symposium in Melbourne in March 2007 (EIfEL, 2007), as part of the Trilogy Asia-Pacific ePortfolio Tour of Australia, New Zealand and Hong Kong; in June 2008 education.au invited stakeholders from the VET sector, the higher education sector and the government to meet and discuss policy issues associated with ePortfolios in education and training (education.au, 2008a). A discussion group was set up within the Education Network Australia (EDNA) online network for Australian educators, but to date there has been little activity. The research team hosted the Australian ePortfolio Symposium, with the associated Showcase, in February 2008 (see Section 6.5).

At the local level, there have been several institutional developments. One university has embarked on an institution-wide project to introduce ePortfolios to students and academic staff. The project is strategically aligned with the university’s teaching and learning goals; a cross-faculty reference group and working party have been established, with a pilot taking place during 2008, with the aim of the ePortfolio system being rolled out across the university in Semester 1, 2009.

Other universities are endeavouring to raise awareness about ePortfolios in learning and teaching. In October 2007, the University of Melbourne held an ePortfolio Forum (University of Melbourne, 2007), inviting academic staff to consider the role of ePortfolios in student learning and to showcase current examples of ePortfolio practice at the university. In May 2008, the University of Queensland held an institutional workshop that was designed as a ’starting point for a dialogue within UQ to establish a coherent approach to ePortfolios’ (University of Queensland, 2008) in order to develop an initial strategy and working model for ePortfolio development and implementation at the university. The interactive workshop was effective in bringing together the teaching staff from many different disciplines to explore the many issues. International experts joined the workshop as ’virtual guests’, providing feedback to the groups in the room as they developed their ideas.

The University of Wollongong launched its ePortfolio Community in May 2008, with an inaugural ePortfolio Symposium ‘to celebrate and share the diversity of approaches, activities and tools used by the 2007 and 2008 cohorts [of students]’ (University of Wollongong, 2008) (see also Table 6.2 in Chapter 6). Following on from the Australian ePortfolio Symposium, QUT held an internal showcase day to share and discuss some of the leading ePortfolio initiatives using the university’s Student ePortfolio (SeP) from a range of discipline perspectives. The SeP team continues to develop the online resources to support students and academic staff; it also offers a program of tutorials and workshops to cohorts that range from new students during Orientation Week and to higher degree research students.

Feedback from delegates attending the Australian ePortfolio Symposium and discussions at professional meetings have stressed the urgency of ’continuing the dialogue’ that has commenced in this country, possibly through a regular symposium program. Delegates reported that they wanted to know how to best share knowledge and expertise within and across universities, to foster collaboration and to establish a central resource or portal. These strategies are all elements of a community of practice.
The interests of different stakeholders, however, may need to be considered in the different contexts of policy, research and practice, and as in the UK, there may be opportunities to establish local, regional, national and international communities.

Individual institutions can develop their own community of practice, which may emerge from grassroots activities to gain momentum across faculties and schools, or there may be institutional drivers that encourage a strategic approach to coordinate policy with practice. Each institution will have its own channels of communication and collaboration that will best suit their immediate context. There may be scope for communities being established within alliances of universities which may have specific strategic goals, for example the Group of Eight, the Australian Technology Network, or the Innovative Research Universities Australia group. The existing communications infrastructure of these alliances may be developed to incorporate working groups to undertake collaborative research or to share practice.

The current research activities, through the national audit, the student surveys and the regional focus groups have not only succeeded in raising awareness within the Australian higher education sector about ePortfolios as both process and product, but also intensified the interest of academics in engaging with and deepening their understanding of the contribution of ePortfolios to learning, both within and beyond university. The research team believes there is immense scope for further research and analysis of the impact and potential of ePortfolios in higher education: the diverse dimensions of knowledge construction, student attitudes, new teacher roles, employer expectations, eLearning-supported pedagogies, emerging technologies, organisational factors, interoperability etc. Research funding (for example, through the ALTC) can play a vital role in facilitating collaborative research in the area and will help the sector better understand how ePortfolios might be used to achieve productive outcomes in key areas of educational and workforce policy.

While no current examples of discipline-focused communities for ePortfolio researchers or practitioners could be identified in Australia, there are clear benefits to be gained from collaboration across a specific discipline, especially when linked to professional accreditation requirements, for example, for the teaching profession, engineering or nursing. However, initial steps towards establishing disciplinary communities have been made through the ALTC Exchange.

The mission of the ALTC itself is to ‘promote and advance learning and teaching in Australian higher education’ (ALTC, 2008c), with specific objectives which seek to develop ways to identify, develop, disseminate and embed good practice in learning and teaching, especially through national and international relationships. The ALTC Exchange, formerly the Carrick Exchange, has been developed as ‘a new online service that will provide learning and teaching resources and support communication and collaboration across the national and international higher education sector’ (ALTC, 2008d). As such, it can support the identification, dissemination and embedding of good individual practice, as well as best institutional practice within the higher education sector, to support ‘networking and the development of communities of practice across the higher education sector’ (ALTC, 2008e).

In discussing the development of the ALTC Exchange, Philip, Lefoe, O'Reilly and Parrish (2007) proposed that the Exchange ‘may well support fully formed communities of practice, plus any looser and more brittle networks’. It is advised that there should be room for the community of practice ‘to self organise its own structure and facilities … [beginning] with a minimal set of activities and forums to encourage participation’ (Philip et al., 2007). This may be within discipline contexts, at regional or national levels. The Australian ePortfolio Project research team believes that there is a strong — and growing — body of interest in academic circles to move in this direction. Building on the idea of the HEA National Teaching Fellowship program, there is further potential to use the ALTC Fellowship Scheme as a mechanism to foster leadership and stimulate collaborative activities, as well as to develop national and international relationships.

The current research has enabled Australia to develop strong relationships with international ePortfolio communities. Rob Ward, Director of the Centre for Recording Achievement (CRA) has served as a member of the project Steering Committee, while Associate Professor Angela Smallwood, Director of the Centre for International ePortfolio Research at the University of Nottingham, has acted not only as the external reviewer for the project, but also a valuable ‘critical friend’. It has therefore been possible for the research team to establish connections with representatives of ePortfolio practice and research in the UK, the USA and the Netherlands. Members of the project team were invited to attend the first meeting
of Cohort IV of the Inter/National Coalition for Electronic Portfolio Research, held in London in October 2007, to observe the first steps in developing an international network of practitioner-researchers in the ePortfolio field. Members of Cohort IV include academic staff from universities in the England, Scotland, the Netherlands and the USA. Cohort V will involve 11 American universities in a three-year program of collaborative research.

While the ALTC may provide one suitable avenue to support the sharing of knowledge and practice within the Australian higher education sector, national cross-sector engagement is also critical in terms of policy and infrastructure — the Australian Flexible Learning Framework supports the VET sector through an eLearning infrastructure. The 2008–2011 framework strategy includes the strategy to support RPL and transition processes through a system of national standards that support portability and re-use of eContent (DEEWR, 2007b). The 2008 framework business plan includes funding for key business activities for ePortfolios (DEEWR, 2007a):

E-portfolios – developing the national infrastructure that will provide the technologies and standards to ensure portability of a learner’s collective evidence of learning, to support their ability to move between training and other forms of education, between jurisdictions, and between employers and industries.

A reference group has been established to ensure key stakeholders, including representatives from the Australian higher education sector, contribute to national and cross-sectoral agreement on ePortfolio standards, policy and business rules. The framework has funded a research study, the VET ePortfolio Roadmap, which will inform the development of strategy and policy for ePortfolio systems in the VET sector. The project seeks to identify key stakeholders, the commonly required features of VET ePortfolio systems in order to develop the appropriate reference model for an ePortfolio system. The research findings will then contribute to the planning of national ePortfolio activities.

Beyond this, there is also clear interest in international collaboration in the area of standards and interoperability to support eLearning. At the Federal Government policy level, there are already agreements and initiatives in place between the Department of Education, Employment and Workplace Relations and the Joint Information Systems Committee (JISC) in the UK, the Ministry of Education in New Zealand and SURF in the Netherlands, as evidenced by the eFramework for Education and Research (eFramework Partners, 2008): ‘The primary goal of the initiative is to facilitate technical interoperability within and across education and research through improved strategic planning and implementation processes’. Australia is also a member of the IMS Global Learning Consortium, which focuses on the IMS ePortfolio specification to help make ePortfolios interoperable across different systems and institutions (IMS, 2008b).

It is important for the Australian academic sector to engage with and support strategies that will encourage ePortfolio practice across higher education. While there is evidence of strong interest with some interesting examples of early adoption, further work needs to be done to ensure this preliminary work is sustainable and scalable within individual institutions and across disciplines. There is also the potential to encourage collaboration across the sectors, to bring together the schools, vocational and higher education sectors to achieve common goals.

8.5 Summary

Many of the delegates who attended the Australian ePortfolio Symposium indicated that the forum was very timely. The audit of ePortfolio practice findings reveal that the majority of the individual respondents are only sketching their first ePortfolio pictures and that many of the institutions are just beginning to develop the required infrastructure and supporting policies. The time is therefore right for educators, technologists and managers to determine how they might speedily build up their knowledge and skills — avoiding the possible potholes along the way — in order to achieve outcomes that will enhance learning and teaching for both students and teachers. The fact that many universities are only just setting out on this journey means that there is considerable value in participating in national and international networks to create a richer and more diverse canvas that will appeal to a wider audience. The opportunities presented by the ALTC Exchange and initiatives in the UK, Europe and the USA should not be ignored.
Nevertheless, it is not only about being in the right place at the right time. Philip et al. (2007) stress the challenges still to be faced: ‘the need for financial support; issues of academic time poverty; the need for well-placed institutional champions, the difficulty of identifying and quantifying outcomes from communities of practice; and the question of sustainability and ongoing support’. Arguably these challenges are common to many academic projects — immediate analogies can be drawn with individual ePortfolio projects. There is a need for a clearly articulated common purpose and shared goals within so many of the activities that take place in the higher education sector. Through regular and frequent exchanges of knowledge and experience, the community’s own ‘practice’ can effectively move teaching and learning forward (Sherer, Shea, & Kristensen, 2003).

The ability to share creative ideas, innovative practice and high quality resources is integral to the future success of higher education nationally and internationally. There are opportunities, as presented in the recommendations and final chapter of this report, to foster deeper engagement with ePortfolios in higher education through the development of resource kits for the different practitioners, establishing a community of practice around the topic, or indeed several communities with, for example, a discipline focus. There is undoubtedly scope for individual academics or collaborative teams, both national and international, to undertake further research into the impact of ePortfolios in learning. A regular symposium would support the emerging communities of practice and offer a forum for the dissemination and sharing of knowledge and expertise.
9. **CONCLUSION AND RECOMMENDATIONS**

While the Australian ePortfolio Project was an intensive research project, it is believed that the data collection activities undertaken from late 2007 to mid-2008 effectively captured the views and experiences of the different stakeholder groups engaged with ePortfolio practice in higher education in Australia. It is acknowledged that the picture presented represents a snapshot in time, and that the interest in ePortfolios is growing. The specific range of research methodologies was selected in order to ensure the reach was as broad as possible. A mixed method of surveys, focus groups, semi-structured interviews and symposium activities enabled the research team to consider many different perspectives of ePortfolio activity, including university managers, academic developers, educational technologists, teaching staff, government policy makers, representatives of the schools and vocational education sectors, employers and recruiters, and of course students themselves, both those new to ePortfolios and those with considerable experience with them.

The research findings revealed that there was a high level of interest in the ePortfolios in the context of higher education, particularly in terms of the potential to help students become reflective learners who are conscious of their personal and professional strengths and weaknesses, as well as to make their existing and developing skills more explicit. The value of ePortfolios in the graduate recruitment process was recognised, as well as the need for interoperability across the different areas of education and employment, which resonates with the current government policy focus on integration between vocational and higher education and the articulation of employability skills.

Findings from the audit provided evidence that there were some interesting examples of good practice in different institutions, although this tended to be distributed across the sector. The main research findings indicated that:

- The greatest use of ePortfolios was recorded in coursework programs, rather than research programs, with implementation generally reflecting subject-specific or program-based activity, as opposed to whole of faculty or university activity.
- Staff use of ePortfolios tended to be sporadic but was more common amongst academic staff than professional staff.
- There was considerable exploratory interest in ePortfolios in tertiary education, with respondents reporting current investigations into, plans for and imminent implementation of ePortfolios for learners.
- A wide range of tools was being used: the learning management system was the most common application, but paper-based systems, student web pages, blogs and wikis featured. There was often an element of choice of tool, which underscored the climate of experimentation.
- The main uses for the ePortfolio by learners were the two dimensions of collecting evidence of learning and reflecting on their learning activities, generally in combination.
- There was an even balance between formative and summative assessment of the ePortfolio, with assessment focusing on different aspects: the ePortfolio as final product, the artefacts in the ePortfolio, and student reflection on the process of developing their ePortfolio.
- Responsibility for implementation frequently rested with the individual teaching unit, although a centralised model of coordination by ICT services, careers and employment or learning and teaching support services was occurring.
- ePortfolio policy was mainly the responsibility of the learning and teaching support division, with some emergent examples of collaboration across the institution; a good proportion of respondents revealed, however, that there were as yet no formal policies.
- Strategic direction was primarily offered by central learning and teaching divisions. In some cases, joint responsibility was attributed to committees encompassing academic interests, careers and employment and ICT services.
Successful practice highlighted the need to embed or integrate ePortfolio activities into the curriculum; to have the clear commitment and buy-in from academic staff; to have a sound ICT infrastructure, adequate funding and overt support from champions; and to develop strong linkages with university strategies and policies.

There was an express desire to draw on best practice to share ideas, knowledge and experiences across the institution and across the sector. The Australian ePortfolio Symposium held in February 2008 was acknowledged to be an important first step in this process.

The data captured in the audit findings were augmented by the qualitative information gathered through the focus groups and semi-structured interviews. It was apparent that the role of ePortfolios is most clearly acknowledged at the practice level, in the immediate learning context where students interact directly with the teaching staff. However, at the present time, the implementation and use of ePortfolios in Australia is fragmented, especially when compared with Europe, the UK or the Netherlands, so that further development is required to achieve leading-edge practice.

There is, nevertheless, a strong interest in progressing towards more widespread adoption of ePortfolios in higher education, with awareness that collaboration within and across institutions, as well as within and across the disciplines and the professions, offers the potential for cohesive strategies for development. Progressive growth in practice cannot happen in isolation, but will require support through relevant policy development.

In environments where government and academic policy has been determined with the express goals of bringing together the dimensions of integrated education and learning, graduate attributes, employability skills, professional competencies and lifelong learning, the stimulus for ePortfolio practice is increased. In such contexts, the correlation between the attributes of a skilled and productive workforce and the quality of learning outcomes from academic institutions has been recognised. Evolving education and employment policy in Australia, together with initiatives such as the Australia 2020 forums and the Review into Australian Higher Education, may provide impetus for discussion amongst the stakeholders about the potential for ePortfolios to weave some of the disparate policy strands together.

Survey respondents, focus group participants and delegates at the Australian ePortfolio Symposium agreed that guidance and support were required for progress to be made in the short to medium term. The concept of communities of practice was identified as one of the mechanisms that would be of significant value, to encourage the sharing of good practice as well as lessons learned, for example, through case studies and information resource kits. The research team acknowledges that, given the timeframe for the project, it was not possible to develop detailed case studies of ‘best practice’ in the use of specific ePortfolio tools or to illustrate excellence in the use of ePortfolios by learners to demonstrate the attainment of specific professional standards. The project team is currently finalising the development of a series of toolkits to contextualise some of the work undertaken by JISC in the UK through a series of guidance notes targeted, for example, at academic managers, educational technologists, ICT managers, teaching staff and students, and also employers.

The research clearly indicated that not all ePortfolio practice is at the same level of maturity. The guidance notes therefore need to relate to these different levels of maturity, which will, in turn, support the development of detailed case studies. The work by Becta (2007) presents a range of models to assess maturity, covering institutional policy, curriculum ICT policy, connectivity to support ePortfolio development, interoperability, institutional embedding, staff commitment and engagement, and learner commitment and buy-in. These maturity descriptors have been adapted for the immediate context of ePortfolio initiatives in Australian higher education (see Appendix) so that stakeholders can consider and discuss the level of their preparedness to implement or scale up an ePortfolio system.

In concluding the Australian ePortfolio Project, a number of recommendations are presented to help progress ePortfolio practice in higher education. The project investigation identified four individual, yet interrelated, contexts where strategies may be employed to support and foster effective ePortfolio practice (see Figure 9.1):
Learners provide the overarching context for the use of ePortfolios: to support the achievement of learning outcomes and gain an understanding of the learning process itself. Active engagement with ePortfolios can help learners transition into employment or into further education by providing evidence of their achievements, and can scaffold their career development over a period of time, but there also needs to be strong institutional and pedagogical frameworks of support. It is important that there is open dialogue and collaboration between the stakeholders across this range of contexts, ideally with a common vocabulary and shared understandings to reduce confusion about both the ePortfolio product and process.
The current policy environment of the Federal Government seeks to enhance the quality of education, encourage widened access to education opportunities, and stimulate integration between vocational education and training and higher education in order to support innovation and productivity to ensure ongoing national economic development and growth. Indeed, internationally, ePortfolio policy and practice seek to draw together the different elements of integrated education and learning, graduate attributes, employability skills, professional competencies and lifelong learning, ultimately to support an engaged and productive workforce. The recent proposal for an Australian Higher Education Graduation Statement seeks to provide an internationally acceptable format for presenting institutionally authenticated information about learners, while an ePortfolio can help them better understand the value of their achievements, not only through their academic studies, but also through formal and informal learning activities in other areas of their lives.

**Recommendation 1**

It is recommended that the government departments with responsibilities for education engage with peak industry, professional and employer bodies to develop a shared understanding of the potential of ePortfolio practice to articulate employability skills.

***

**Recommendation 2**

It is recommended that government policy recognise ePortfolio practice as a strategy to build an integrated relationship between higher education and the vocational education and schools sector, in order to support the individual’s lifelong and lifewide learning needs and to increase the potential for career progression.

***

**Recommendation 3**

It is recommended that the higher education sector acknowledge the role of the Australian Higher Education Graduation Statement as an authenticated document reporting student achievement, compiled and verified by the academic institution at the time of graduation, while further acknowledging the value of the ePortfolio process to articulate the integrative aspects of student learning.

***

Learner mobility within and between education, training and employment sectors requires processes that will allow data about individuals to be both exported and imported across different systems and services with the assurance that the data is both secure and accessible. Technical standards and interoperability issues developed through international collaboration (for example, the eFramework for Education and Research, and the IMS Global Learning Consortium) represent a key aspect of ePortfolio practice, supporting the exchange of information and data across institutional, sectoral and jurisdictional boundaries.

**Recommendation 4**

It is recommended that Australian ePortfolio stakeholders continue to develop the collaborative relationship with partners in the eFramework for Education and Research initiative in order to ensure that aspects of ICT in education and research are developed and implemented strategically.

***
Recommendation 5

It is recommended that the international information standards for ePortfolio practice be adopted as an Australian technical framework, in order to facilitate the exchange of information and data across institutional, sectoral and jurisdictional boundaries.

***

It is important for academic managers to have a broad understanding of the benefits and value that ePortfolios can bring to learning, teaching and career development processes, so there is scope for an ePortfolio culture to become an integral aspect of the academic environment. Those engaged in the institution’s learning and teaching policy environment need to be conscious of the potential of ePortfolios, when integrated into current and future eLearning strategies, to contribute to student-centred learning strategies, transparent learning outcomes and the relevant employability skills for graduates. Significantly, the successful adoption and implementation of ePortfolios require strong alignment between the strategic, tactical and operational areas of academic management.

Recommendation 6

It is recommended that academic policy in higher education institutions recognises the value of ePortfolio practice as a component of different pedagogies that enhance the quality of learning and teaching across the institution.

***

Many early adopters of ePortfolio practice have recognised the potential of the ePortfolio process, when it is embedded in learning and teaching activities, to help students move beyond the state of knowing what they have learned to consider how they have learned. By reflecting on their own learning and achievement, learners are encouraged to plan for their personal, academic and career development. Currently, ePortfolio practitioners in higher education are eager to break away from their sense of isolation and work collaboratively across disciplines and institutions to further their knowledge and understanding. There is scope to develop a community of practice that will provide valuable channels of communication between educators with shared interests and ideas, and encourage scholarship and research. Compared with many other countries such as the United Kingdom, United States of America and the Netherlands, Australia is in the early stages of ePortfolio practice and research. There is scope to undertake investigations into the impact of ePortfolios on key areas on learning outcomes within and beyond university.

Recommendation 7

It is recommended that the various stakeholders in higher education who are interested in ePortfolios utilise the ePortfolio Toolkit (under development) to guide and inform their practice.

***

Recommendation 8

It is recommended that ePortfolio stakeholders establish a Community of Practice to share learning and experiences of quality ePortfolio practice in higher education, in order to foster scholarship and research and to provide a forum for dissemination about good practice.

***
Recommendation 9

It is recommended that a regular Australasian conference be convened to explore and discuss ePortfolio research and practice.

***

Recommendation 10

It is recommended that the Australian Learning and Teaching Council adopt a leading role to foster and support further research into the educational benefits of ePortfolio practice.

***

This report has presented the project team analysis of the national and international contexts of ePortfolio development, as well as the issues and challenges associated with ePortfolio practice. The different stakeholder groups have been identified, with consideration given to their respective roles and responsibilities, encompassing both policy and practice. There are many discrete building blocks in effective ePortfolio projects that represent the different stakeholder groups and the diverse dimensions of organisational culture, pedagogy, technological and academic support, as well as educator and learner commitment. One single building block, however substantial, does not guarantee success, but the various building blocks need to be both aligned and interconnected, with strong governance providing a clear rationale for and commitment to the initiative, especially to ensure sustainability as pilot projects are scaled up into faculty-wide or institution-wide systems.

If the higher education sector is to effectively fulfill its role in producing skilled professionals who, through continuous learning, career progression and coherent employability strategies, will play a significant role in the future success of the Australian community and economy, then the potential of ePortfolios to bring together educational technologies and quality learning processes, and to provide evidence of individual achievement and employability skills, should not be ignored.

It is hoped that the opportunities offered through this investigation will enable clearer focus to be given to the policies and strategies required at both the sectoral and institutional levels to progress ePortfolio practice in Australia.


References


### APPENDIX: ePortfolio Maturity Model

These matrices have been adapted from the work published in the Becta report, *Impact study of e-portfolios on learning* (2007).

Grateful acknowledgement is given to the Learning Sciences Research Institute, The University of Nottingham, Nottingham Trent University and Becta.

#### Institutional factors

<table>
<thead>
<tr>
<th>1. Policy</th>
<th>2. Connectivity to support ePortfolio development</th>
<th>3. Interoperability/transferability of data</th>
<th>4. ICT policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The institution does not have a formal policy relating to the development of the use of ePortfolios. Any ePortfolio practice may be regarded as ad hoc.</td>
<td>Limited access to a computer in stand-alone mode.</td>
<td>The ePortfolio system may best be described as 'stand-alone'. No provision has been made for transferability of a portfolio or specific items of content for use under different systems or on different platforms.</td>
<td>The ePortfolio system offers maximum interoperability and flexibility with ease of user management, including upload and download of individual items, and tailored bulk import and export of material for a range of purposes. The portfolio and its contents may easily be transferred between platforms, and between sectors.</td>
</tr>
<tr>
<td>The institution has a policy relating to ePortfolio use and development; however, few stakeholders are formally aware of it. Nevertheless, ePortfolio practice shows some relation to policy. <em>learners, mentors, academics, employers, others as appropriate</em></td>
<td>Most learners have access to a computer that is networked with broadband access to the institutional system.</td>
<td>Only limited provision has been made for transferability of a portfolio or specific items of content for use under different systems or on different platforms.</td>
<td>The ePortfolio system offers some flexibility for user management, including upload and download of individual items, and bulk export of material for designated purposes. The contents of the portfolio may be transferred between platforms, and between sectors.</td>
</tr>
<tr>
<td>The institution has a clearly articulated policy which is generally understood by some members of various stakeholder groups. ePortfolio practice is seen generally to conform to local policy guidelines.</td>
<td>Provision has been made for transferability of a portfolio or specific items of content for use under different systems or on different platforms. Users normally require assistance with aspects of the management of these aspects of their portfolio.</td>
<td>Provision has been made for transferability of a portfolio or specific items of content for use under different systems or on different platforms.</td>
<td>The ePortfolio system offers some flexibility for user management, including upload and download of individual items, and bulk export of material for designated purposes. The contents of the portfolio may be transferred between platforms, and between sectors.</td>
</tr>
<tr>
<td>The institution has a clearly articulated policy relating to ePortfolio purpose, use and development; all stakeholders are aware of it. It is widely communicated via a formal developed plan. ePortfolio policy and practice are highly consistent.</td>
<td>Most learners have access to a computer that is networked with broadband access to the institutional and external resources, e.g. Web 2.0 applications. The institution has policy in place relating to security, backup, copyright and access rights. Differential access levels for internal and external users/viewers (e.g. employers and mentors) at a global level but difficult to restrict to subsets of information.</td>
<td>The ePortfolio system offers some flexibility for user management, including upload and download of individual items, and bulk export of material for designated purposes. The contents of the portfolio may be transferred between platforms, and between sectors.</td>
<td>The ePortfolio system offers maximum interoperability and flexibility with ease of user management, including upload and download of individual items, and tailored bulk import and export of material for a range of purposes. The portfolio and its contents may easily be transferred between platforms, and between sectors.</td>
</tr>
</tbody>
</table>
### 5. Institutional embedding

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>No institutional embedding: ePortfolios are not yet accepted as an institution-wide initiative.</td>
<td>Institutional embedding is in its early stages; there is institutional commitment to ePortfolios, but there is as yet no effective identifiable ‘sponsor’, and little cross-curricular support.</td>
</tr>
<tr>
<td></td>
<td>Institutional embedding is beginning to bite; there is solid institutional commitment to ePortfolios, and an identifiable ‘sponsor’, who is working to gain cross-curricular support.</td>
</tr>
<tr>
<td></td>
<td>Institutional embedding is under way; senior leadership support and advocacy, appropriate information management structures, curriculum embedding and an ePortfolio sponsor are all identifiably present.</td>
</tr>
<tr>
<td></td>
<td>Institutional embedding achieved; senior leadership successfully connecting, information, curriculum, staff and students in a coherent and effective way; ePortfolio champion’s role becomes increasingly redundant.</td>
</tr>
</tbody>
</table>

### Academic factors

#### 1. Staff ICT skills

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most staff seriously lack functional ICT skills.</td>
<td>A few staff are ICT familiar/competent and the ICT coordinator or technician is ICT fluent.</td>
</tr>
<tr>
<td></td>
<td>Some staff are ICT familiar/competent and the ICT coordinator or technician is ICT fluent.</td>
</tr>
<tr>
<td></td>
<td>The majority of staff are ICT familiar/competent with key staff ICT fluent, including teaching assistants.</td>
</tr>
<tr>
<td></td>
<td>The majority of staff are ICT fluent.</td>
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</tbody>
</table>

#### 2. Academic engagement/buy-in to ePortfolios

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little or no academic engagement or buy-in; academics unaware of ePortfolio use or predominantly negative towards it.</td>
<td>Academic engagement sporadic, uneven, partial; some academics positive and keen, but ePortfolio not seen as central, important or integral to personal learning.</td>
</tr>
<tr>
<td></td>
<td>Academic engagement reasonably positive; some use of ePortfolios as a tool for building both institutional and personal constructions of individuals’ activity, achievements, life and identity. Some use of the ePortfolio to support professional accreditation.</td>
</tr>
<tr>
<td></td>
<td>Academic engagement generally positive; ePortfolios used as a tool for building both institutional and personal constructions of individuals’ activity, achievements, life and identity. Wide spread use to support professional accreditation.</td>
</tr>
<tr>
<td></td>
<td>Academic engagement almost universally positive; ePortfolios used as a central tool for building both institutional and personal constructions of individuals’ activity, achievements, life and identity. Wide spread use to support professional accreditation.</td>
</tr>
</tbody>
</table>

#### 3. Academics and mentors as providers of online feedback

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academics and/or mentors offer little or no formative feedback in the preparation of material that might subsequently be included in an ePortfolio.</td>
<td>Some academics and/or mentors offer formative feedback in the preparation of material that might subsequently be included in an ePortfolio.</td>
</tr>
<tr>
<td></td>
<td>Most academics and/or mentors offer formative feedback in the preparation of material that might subsequently be included in an ePortfolio.</td>
</tr>
<tr>
<td></td>
<td>Most academics and/or mentors work regularly, constructively and formatively on giving feedback to students on material that might be incorporated into an ePortfolio.</td>
</tr>
<tr>
<td></td>
<td>Most academics and/or mentors work regularly, constructively and formatively on giving feedback to students on material that might be incorporated into an ePortfolio, and guide the student in deciding how to use ePortfolio content. Embedded in the curriculum.</td>
</tr>
</tbody>
</table>

#### 4. Academic encouragement of autonomy in the construction of ePortfolios

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few academics allow students to select learning goals or learning approaches in the construction of their ePortfolios.</td>
<td>Some academics allow students to make autonomous choices concerning their learning goals and learning style in the construction of their ePortfolios.</td>
</tr>
<tr>
<td></td>
<td>Most academics allow students sometimes to make autonomous choices concerning their learning goals and learning style in the construction of their ePortfolios.</td>
</tr>
<tr>
<td></td>
<td>In some areas student autonomy in the construction of their ePortfolios is actively encouraged as a matter of policy by the teaching staff.</td>
</tr>
<tr>
<td></td>
<td>Student autonomy in the construction of their ePortfolios is actively encouraged as a matter of policy by the teaching staff, and the institution provides suitable content/materials to facilitate this.</td>
</tr>
</tbody>
</table>
### Student/learner factors

#### 1. Students capability for autonomy in learning

<table>
<thead>
<tr>
<th>Students are not capable of selecting learning goals or learning approaches such as the use of ICT tools.</th>
<th>Some students are capable in some areas of making autonomous choices concerning their learning goals and learning style.</th>
<th>Most students are capable some of the time of making autonomous choices concerning their learning goals and learning style.</th>
<th>Most students are capable of making autonomous choices concerning their learning goals and learning style.</th>
<th>All students are capable of making autonomous choices concerning their learning goals and learning style.</th>
</tr>
</thead>
</table>

#### 2. Students’ electronic links to the institution

<table>
<thead>
<tr>
<th>Students not linked from outside the institution.</th>
<th>Some students email work to and from home.</th>
<th>Most students use electronic transfer of work between the home and the institution. Home links are not monitored.</th>
<th>Students can access the institutional intranet from home to access resources or expertise. Home links are monitored to identify equity issues.</th>
<th>Students can access the institutional intranet from home to access resources or expertise. In homes with limited resources the institution provides some support.</th>
</tr>
</thead>
</table>

#### 3. Access to portfolio/ownership

<table>
<thead>
<tr>
<th>Any use of ePortfolios is fully under institution control and supervision. All ePortfolio activity is academic-initiated and academic-directed.</th>
<th>Access to ePortfolios is fully under institution control and supervision. Access is restricted to designated times. Learners have little choice over the content of the ePortfolio, which is monitored by academics who have default access.</th>
<th>Access to ePortfolios is largely under institution control and supervision. It is available at — and outside — designated times. Learners have some choice over the content of the ePortfolio, which is also monitored by academics with learner permission.</th>
<th>Flexible access to password protected ePortfolios is available both within and beyond the institution. Learners have choice over the content of the ePortfolio, and are encouraged to consult academics acting in an advisory role.</th>
<th>Learner access to the password protected ePortfolio system is available ‘anytime, anywhere'; each individual learner makes personal decisions about the use and content of the ePortfolio, including which aspects of the ePortfolio will be available to others and under what conditions.</th>
</tr>
</thead>
</table>

#### 4. Learners as active creators of digital content

<table>
<thead>
<tr>
<th>Learners create little or no digital content.</th>
<th>Learners create some digital content in formal curriculum areas.</th>
<th>Learners are regular and active creators of digital content in both formal and informal curriculum areas.</th>
<th>Learners are regular and active creators of content in both formal and informal curriculum areas, and make connections between their virtual spaces and multiple identities to support learning.</th>
<th>Learners are regular and active creators of content in both formal and informal curriculum areas, and make connections between their virtual spaces and multiple identities to support learning.</th>
</tr>
</thead>
</table>

#### 5. Learners as seekers and users of feedback

<table>
<thead>
<tr>
<th>Learners neither seek nor use feedback in online learning environments.</th>
<th>Learners use feedback in some online learning environments.</th>
<th>Learners use feedback in both formal and informal curriculum areas.</th>
<th>Learners are regular seekers and users of feedback in both formal and informal curriculum areas.</th>
<th>Learners are regular seekers and users of feedback involving a range of audiences, in both formal and informal curriculum areas.</th>
</tr>
</thead>
</table>

#### 6. Learner engagement/buy-in to ePortfolio

<table>
<thead>
<tr>
<th>Little or no learner engagement or buy-in; learners unaware of ePortfolio use or predominantly negative towards it.</th>
<th>Learner engagement sporadic, uneven, partial; some learners positive and keen, but ePortfolio not seen as central, important or integral to personal learning.</th>
<th>Learner engagement reasonably positive; many students value ePortfolios as a tool for recording aspects of achievement and identity.</th>
<th>Learner engagement generally positive; ePortfolios valued as a tool for building institutional and personal constructions of individuals’ activity, achievements, life and identity.</th>
<th>Engagement almost universally positive; ePortfolios are a central tool for building institutional and personal constructions of individuals’ activity, achievements, life and identity.</th>
</tr>
</thead>
</table>
### 1. Usability/simplicity

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The interface is complex, cluttered, difficult to grasp, with help essentially in text files. Online and offline help are incomplete and/or difficult to access.</td>
</tr>
<tr>
<td>The interface is reasonably well designed, though with some weaknesses, reasonably easy to use, and supported by tutorials, though nearly all text-based. Some offline help facilities are available.</td>
</tr>
<tr>
<td>The interface is reasonably well designed, appropriate for a wide range of users, clear, readable, reasonably easy to use, and supported by tutorials (including some graphics; not just text). Some online and offline help facilities are available.</td>
</tr>
<tr>
<td>The interface is well designed, intuitive and appropriate for a wide range of users, clear, readable, easy to use, and well supported by tutorials (including some graphics; not just text). Some individualised online and offline help facilities are available.</td>
</tr>
</tbody>
</table>

### 2. Reuse/malleability

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data is essentially fixed, and in formats that are not easily transformed for other purposes.</td>
</tr>
<tr>
<td>A limited range of data types are acceptable, but only some are capable of being ported for a range of audiences and purposes. Only very limited support for reconfiguring data (e.g. in order to produce a CV) ready for printing/outputting.</td>
</tr>
<tr>
<td>A reasonable range of data types are acceptable, and most are capable of being ported for a range of audiences and purposes. Some capability for reconfiguring data (e.g. in order to produce a CV) ready for printing/outputting.</td>
</tr>
<tr>
<td>Any agreed type of data and file can be stored, and structured in such a way as to make it readily capable of being ported in a range of formats and for a range of audiences and purposes. Simple and intuitive options will reconfigure data (e.g. in order to produce a CV).</td>
</tr>
</tbody>
</table>