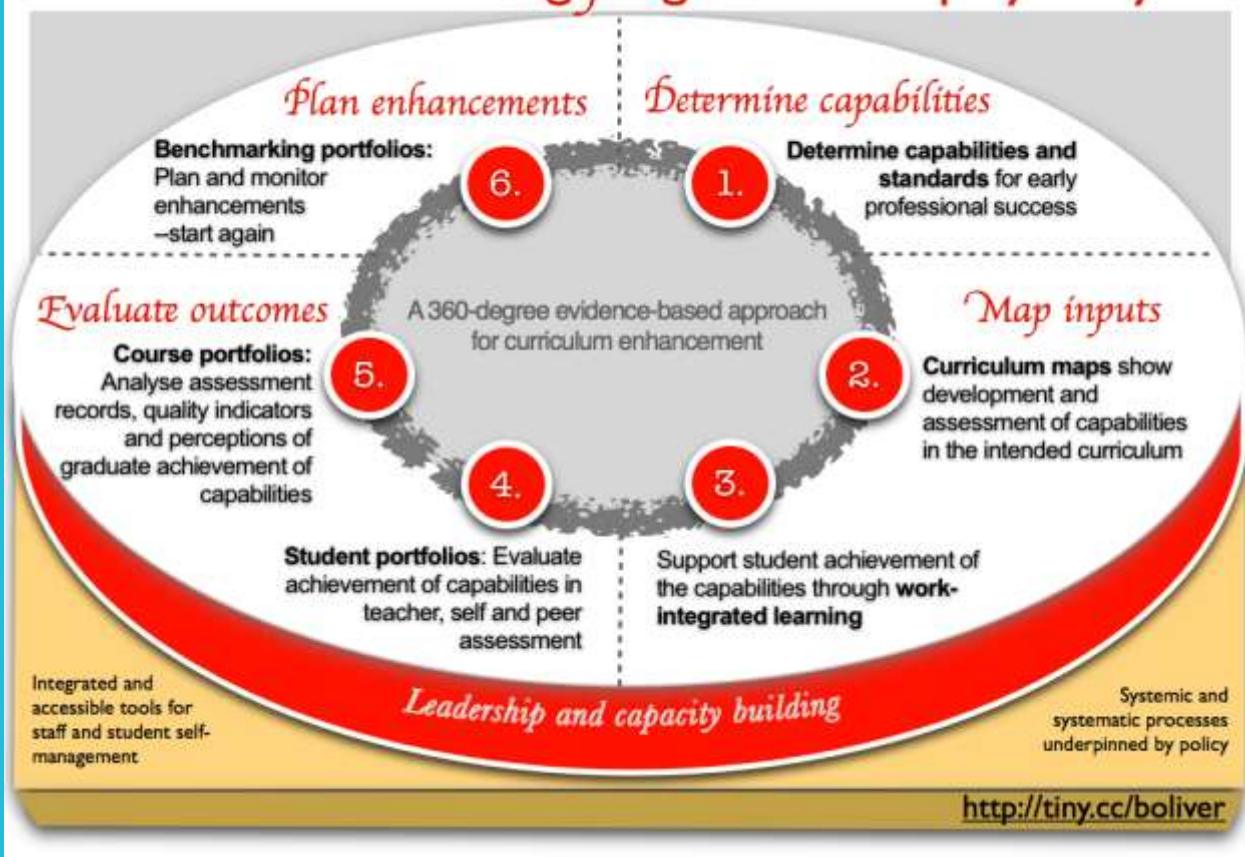


## Final Report

# TEACHING FELLOWSHIP: BENCHMARKING PARTNERSHIPS FOR GRADUATE EMPLOYABILITY

Professor Beverley Oliver  
Curtin University  
December 2010

## Assurance of learning for graduate employability



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Professor Beverley Oliver  
2009 ALTC Teaching Fellow  
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## List of acronyms and terms

<b>AAC&amp;U</b>	Association of American Colleges and Universities
<b>ABCD</b>	Australian Blueprint for Career Development
<b>ACER</b>	Australian Council for Education Research
<b>AGS</b>	Australian Graduate Survey
<b>AQF</b>	Australian Qualifications Framework
<b>AUQA</b>	Australian University Quality Agency
<b>AUSSE</b>	Australasian Survey of Student Engagement
<b>CADAD</b>	Council of Australian Directors of Academic Development
<b>Capabilities</b>	Integration of knowledge, skills, personal qualities and understanding used appropriately and effectively ... in response to new and changing circumstances (Stephenson, 1998)
<b>CCMap</b>	Curtin Curriculum Mapping Tool
<b>CEQ</b>	Course Experience Questionnaire
<b>CEQuery</b>	Software which analyses CEQ comments into sub-domains
<b>CLA</b>	Collegiate Learning Assessment
<b>Course</b>	A degree program
<b>Course leader</b>	The person responsible for the quality and effectiveness of a course (degree) curriculum and delivery
<b>Course team</b>	The full-time, part-time, sessional or casual staff who teach a course
<b>DEEWR</b>	Department of Education, Employment and Workplace Relations
<b>DETYA</b>	Department of Education, Training and Youth Affairs
<b>Employer</b>	People who directly employ or work with graduates of courses
<b>GDS</b>	Graduate Destination Survey
<b>GPS</b>	Graduate Pathways Survey
<b>Graduate Employability</b>	The achievement of skills, knowledge and personal attributes that make graduates more likely to secure and be successful in their chosen occupations to the benefit of themselves, the workforce, the community and the economy” (Yorke, 2006)
<b>Graduate Employability Indicators (GEI)</b>	New surveys gathering graduate, employer, and Course Team perceptions of the importance of fourteen capabilities to early professional success, and the extent to which they are generally demonstrated by graduates or developed in courses.
<b>iPortfolio</b>	Curtin’s electronic portfolio (e-portfolio) system
<b>LTAS</b>	ALTC Learning and Teaching Academic Standards project
<b>LTPF</b>	Learning and Teaching Performance Fund
<b>New graduate</b>	Someone who has graduated from the course in the last five years
<b>NSSE</b>	National Survey of Student Engagement (US)
<b>OATL</b>	Office of Assessment, Teaching and Learning, Curtin University
<b>PDP</b>	Personal development planning
<b>QAA</b>	Quality Assurance Agency (UK)
<b>TAFE</b>	Tertiary and Further Education
<b>TEQSA</b>	Tertiary Education Quality and Standards Agency
<b>TER</b>	Tertiary Entrance Rank
<b>Unit</b>	A semester-length learning experience, sometimes called a subject
<b>VALUE Project</b>	Valid Assessment of Learning in Undergraduate Education Project
<b>VET</b>	Vocational Education and Training
<b>WIL</b>	Work-integrated learning

## Executive summary

This fellowship aimed to encourage course leaders from universities across Australia to engage in benchmarking partnerships with a focus on graduate employability, and to disseminate curriculum tools which would enable that focus: a curriculum mapping tool; graduate and employer surveys; and a needs analysis which assembled course quality indicators. During the fellowship journey, the original aims developed into a more comprehensive approach presented within a framework. The major outcomes of the fellowship are:

### **1. Assurance of learning for graduate employability framework**

The framework suggests that the capabilities that count for early professional success are most likely to be achieved through a 360-degree evidence-based approach to curriculum enhancement.

### **2. Capabilities: attributes, skills and competencies for graduate employability**

The fellowship has been based on an extensive study of the literature associated with learning outcomes, and the various ways in which outcomes are described: attributes, qualities, capabilities, competencies and so on. A proforma for amalgamating these sometimes competing outcomes in relation to a specific course curriculum has been developed and disseminated.

### **3. Mapping capabilities in the intended curriculum**

During the fellowship, Curtin's curriculum mapping tool was enhanced to produce visual analyses of graduate attributes, assessment, learning experiences and resources, curriculum themes, career development learning, and levels of work integrated learning (WIL). It has been shared with 41 adopters from 26 institutions within and beyond Australia. Their feedback will inform the 2011 version of Curtin's curriculum mapping tool.

### **4. Evaluating student achievement of capabilities: student portfolios**

Although not originally intended for dissemination as part of this fellowship, Curtin's iPortfolio has also been shared with many colleagues beyond the university: a key feature is its focus on student self- and peer-assessment of graduate capabilities.

### **5. Course portfolios**

Curtin's Needs Analysis was designed to synthesise evidence pertaining to course quality indicators. Renamed the Course Portfolio, it now focuses on evidence of achievement of graduate capabilities and includes the Graduate Employability Indicators (GEI), developed as part of the ALTC project 'Building course team capacity for graduate employability'.

### **6. Benchmarking partnerships for graduate employability**

A collaborative, confidential, course-level benchmarking process (Benchmarking with a Focus on Graduate Employability) has been developed and 24 course leaders from 13 institutions participated in trialling the process in November 2010 in Melbourne. A challenge beyond this fellowship will be to have a 'broker' to assist and coordinate benchmarking partnerships: it is possible that existing bodies may be able to provide this function for example, professional bodies, councils of deans, the Australian Learning and Teaching Council (ALTC), Tertiary Education Quality and Standards Agency (TEQSA).



## 7. Dissemination

The ALTC supported a national forum on graduate capability development in Melbourne, November 2010 and 111 colleagues generated strategies for further research and collaboration related to graduate capability development. All fellowship information is available at <<http://tiny.cc/boliver>>. At the time of publication, the website had attracted over 3000 unique visits from around the world and 148 colleagues have joined the fellow's network. The fellowship engaged over 3000 colleagues from 54 institutions within and beyond Australia; activities included seven invited addresses (four international) including four keynotes; six peer-reviewed conference papers; six conference presentations and five posters. Other peer-reviewed papers and an edited book are in preparation.

**Products:** The fellowship website <<http://tiny.cc/boliver>> is the download site for:

- Capabilities proforma
- Curriculum Mapping Tool (CCMap) (request to use) and user guide
- Graduate Employability Indicators (request to use) and user guide
- iPortfolio (request to use)
- Course Portfolio
- Benchmarking with a Focus on Graduate Employability: user guide, information checklist, benchmarking portfolio (and request to find partners).

After due consultation, these refined Curtin tools and processes will be implemented at the fellow's home institution.

### *Future work in this domain*

The initial scan undertaken for this fellowship suggested there was intense activity in relation to curriculum mapping, and less so in graduate and employer feedback and benchmarking. The key to greater effectiveness is in approaching these activities in a 'joined up' and integrated way: all stakeholders need to inform the other aspects of the framework.

Collegial conversations about assuring achievement of capabilities inevitably turn to standards: what are the standards; who decides them, and where are they articulated? Holistic rubrics – descriptors of hallmark performance levels aligned with threshold learning outcomes – that guide student, peer and teacher approaches to formative and summative assessment for professional and safe practice.

Such rubrics would need to be accompanied by methods of collecting and analysing summative and formative assessment evidence that more accurately provides evidence of achievement and areas for improvement. This is dependent on information systems that are integrated, accessible and reliable. Greater commonality would enable better and more accurate benchmarking, perhaps brokered through a discipline or sector-wide body.

Students need ready access to learning tools that enable them to access information focal to their employability aspirations (as well as store evidence of their achievements). E-portfolios could be enhanced to become course-wide and 'life-wide' portals enabling access to 'live' information such as descriptions of the capabilities and levels of performance required for success (rubrics); curriculum maps showing where those capabilities are developed and assessed throughout their course; and graduate and employer feedback about the capabilities that count for early professional success. Such portals could then become key drivers of self-directed learning for enhanced graduate employability.





None of the above ideas can be realised unless the academy has the capacity to implement them. Building fulltime and sessional teaching staff confidence and skills in embedding and evidencing graduate capabilities is likely to advance practice. The vast majority of colleagues who engaged with this fellowship were convinced of the moral purpose of graduate employability – that it is our obligation, not just aspiration, to manage and enhance curricula and student experiences which enable graduates to be “successful in their chosen occupations to the benefit of themselves, the workforce, the community and the economy” (Yorke, 2006). It is hoped that engagement initiated through this fellowship will lead to collaborations that advance our collective efforts in this field.



## Introduction

This fellowship aimed to engage course leaders from universities across Australia to engage in benchmarking partnerships with a focus on graduate employability. The original nomination, titled 'Facilitating national benchmarking of achievement of graduate attributes and employability skills at course level', focused on the idea that universities review curricula drawing on a range of data, including feedback gathered through the Australian Graduate Survey and internal feedback systems which rarely include graduate and employer perceptions of graduate achievement of learning outcomes (or graduate attributes). The fellowship proposed to address this gap by disseminating three tools which assisted in examining achievement of graduate attributes and, on that basis, encouraging voluntary partner universities to engage in benchmarking for improved attribute attainment at course (program) level. In other words, the aim was to have partner universities adopt or share similar tools related to key capability development to undertake curriculum benchmarking with selected peers, and share data (within agreed confidentiality boundaries) so that course leaders could use that experience to enhance their own course curricula to improve graduate employability.

The tools disseminated were initiated during Curtin's university-wide curriculum renewal initiative, Curriculum 2010. They were: (1) a curriculum mapping tool which focused on analysing where graduate attributes were assessed in a course; (2) graduate and employer surveys which reported perceptions of graduate attribute attainment; and (3) a needs analysis which assembled course quality indicators from a range of data sources including the Course Experience Questionnaire (CEQ), Graduate Destination Survey (GDS), course demand, student progress and retention, as well as graduate and employer surveys. In keeping with the above, the deliverables of the fellowship included:

- dissemination of refined Curtin tools (as described above) to engage potential benchmarking partners
- refinement and ongoing validation of the graduate and employer surveys for adoption by partner universities
- negotiated benchmarking partnerships with adopting universities so that agreed data could be shared between partners in relation to specific courses; and a process for benchmarking to improve the curriculum developed
- processes for evaluating the outcomes of benchmarking such as improved stakeholder perceptions of achievement of graduate attributes and employability skills.

Sector-wide developments between the time the nomination was submitted (February 2009) and the conclusion of the fellowship program (December 2010) have had obvious refining effects on the activities and their emphases during the fellowship:

- the focus on standards and diversity emanating from the Bradley Review (Bradley, Noonan, Nugent, & Scales, 2008)
- the ALTC Learning and Teaching Academic Standards (LTAS) project (Australian Teaching and Learning Council, 2010) which has engaged many teaching academics across the sector
- the increased focus on non-self accrediting providers and the role they play in course delivery to a significant portion of the sector
- the announcement of the establishment of TEQSA (Gillard, 2010)



- the revision of the Australian Qualifications Framework (Australian Qualification Framework Council, 2009a, 2009b)
- mission based compacts (Department of Education Employment and Workplace Relations, 2010a).

Closer to home, the fellow was also leading the ALTC project 'Building course team capacity for graduate employability' with which there is a strong synergy, and completing Curtin's curriculum renewal project, Curriculum 2010 (C2010), the seedbed of much of the material disseminated during the fellowship.

### *Starting from an evidence base: an initial scan of the sector*

On commencement of the fellowship, the first task was to look beyond the home institution and scan the sector to discover which institutional tools and processes for mapping, assessing and evaluating graduate attributes were already implemented or in development. Anecdotal evidence suggested that there was much activity in this area as curriculum renewal projects were under way in many universities. The scan of the sector included brief interviews with representatives from Australian universities: during the November 2009 meeting of the Council of Australian Directors of Academic Development, participants were asked in brief face-to-face interviews about their institutions' use of curriculum mapping tools, graduate and employer surveys and benchmarking (Oliver & Whelan, 2010). Participants' involvement was voluntary and they were informed that there would be no identification of the individual or the institution in publications. The institutions for which data were not collected were contacted via email subsequent to the meeting. This quick scan attracted 34 useable responses face-to-face or by email.

It was clear that those available to respond were not always aware of their institutions' tools, nor was it ascertainable that they shared common understandings of all concepts in the questions, particularly benchmarking at course level. Anecdotal evidence of engagement in these activities was confirmed: about two-thirds of respondents reported that their institutions were engaged in or investigating each of the three activities. It also became clear that a few institutions were well down this path, having developed sophisticated tools. Conversations revealed a focus on graduate attributes, and mapping them in curricula. Graduate and employer surveys occurred but were often related to marketing rather than curriculum enhancement; benchmarking did not appear to be a term around which there was immediate consensus, and it was often seen as something done superficially or sporadically to which they would aspire some time in the future.

This information provided an initial 'map' of the terrain, as well as establishing networks for dissemination during the fellowship. It also clearly reinforced the challenge that would emerge during the fellowship: 'benchmarking partnerships' are intended to be collaborative rather than competitive, and universities are in a highly competitive environment across the sector. The original intention had been to disseminate and refine tools and processes that dealt with aspects of the achievement of graduate attributes and employability skills. It then became clear that such activity was best situated within a framework based on the literature of curriculum enhancement for graduate employability. Refining and disseminating tools would follow, as would engaging course leaders to participate in any kind of collaborative benchmarking.



# 1. Assurance of learning for graduate employability framework

## *What is graduate employability?*

Definitions and models of graduate employability abound. Most agree that employability has little to do with labour markets and employment, or by extension, with judging institutional performance (Harvey, n.d.) using measures such as, in Australia, the Graduate Destination Survey. Rather, employability must focus on enabled graduates. Knight and Yorke summarise five common descriptions of employability, ranging from getting a graduate job to the outcome of skilful career planning and interview technique (Knight & Yorke, 2006). A widely-accepted definition (Yorke, 2006), and the one promoted through this fellowship, contends that graduate employability is the achievement of “the skills, understandings and personal attributes that make an individual more likely to secure employment and be successful in their chosen occupations to the benefit of themselves, the workforce, the community and the economy” (p.8). Knight and Yorke’s USEM approach to employability suggests that employability is a combination of:

- **Understanding** of subject discipline(s);
- **Skilful practices** in context (the capacity to apply understanding judiciously);
- **Efficacy beliefs**, students’ self-theories and personal qualities – the extent to which students feel that they might “be able to make a difference”; and
- **Metacognition**, encompassing self-awareness regarding the student’s learning; the capacity to reflect on, in and for action; and self-regulation (Yorke & Knight, 2006).

It is generally agreed that employability derives from complex learning, and is a concept of wider range than those of ‘core’ and ‘key’ skills, the transferability of which is often assumed (Yorke, 2006). Harvey clearly asserts that employability is not a product but a process of learning, and that achievement is complex, interconnected, and not a simple matter of ticking off achievement by graduation. Much of the learning, he claims, occurs in the professional context, well after graduation (Harvey, n.d.): “At root, employability is about learning, not least learning how to learn. Employability is not a product but a process of learning for life. It is not about training for a job; rather it is about empowering learners as critical reflective citizens” (Harvey, n.d.). Yorke agrees: “Employability is not merely an attribute of the new graduate. It needs to be continuously refreshed throughout a person’s working life” (Yorke, 2004).

## *How does higher education focus on employability?*

Higher education institutions have generally attempted to focus on employability by embedding attribute development into courses, career services, work experience opportunities, and reflection on and recording of experience through “progress files” and “career management programs” (Harvey, 2005). It is generally agreed that embedding employability as part of the graduate skill set (or learning outcomes) through curriculum design, course content and delivery is a promising start: curriculum mapping (also known as auditing) offers a way of testing how and where employability-related learning is incorporated into a course curriculum, and that this is far more effective than focusing on what occurs in individual units (subjects or modules) (Yorke & Knight, 2006). Such auditing or mapping may “point to the need to rethink pedagogic and/or assessment practices” (Yorke & Knight, 2006). In Australia, the ALTC ‘B Factor’ report found that “academic staff were more likely to believe that



the most effective method for developing graduate attributes was by integrating them in the curriculum and being taught by the discipline teacher and a specialist with skill in the relevant attribute, followed by being taught by the discipline teacher alone and/or through work-integrated experiences” (Radloff et al., 2009).

Moreland argues that higher education programs must progressively confront students with complex, “authentic” activities that encourage reflection and risk assessment (Moreland, 2006). Knight and Yorke contend that greatest effect is achieved when students are clearly, repeatedly and consistently reminded of the outcomes and levels of achievement that are expected of them (Knight & Yorke, 2006). This is consistent with an extensive body of research which suggests that possession of generic or job-specific skills is necessary, but not sufficient for effective professional performance. According to Scott et al., of equal importance is a high level of social and personal emotional intelligence, an ability to ‘read’ what is going on in each new situation and to match an appropriate course of action with a set of “diagnostic maps” developed from successfully coming to grips with previous problems in the unique context (Scott, Coates, & Anderson, 2008). Goleman, best known for describing these traits as emotional intelligence, cites similar findings: employers list traits generally aligned with generic skills as the most important for professional advancement (Goleman, 1998). This has been subsequently confirmed in more recent straitened economic environments (Hart Research Associates, 2010).

### *The framework developed in this fellowship*

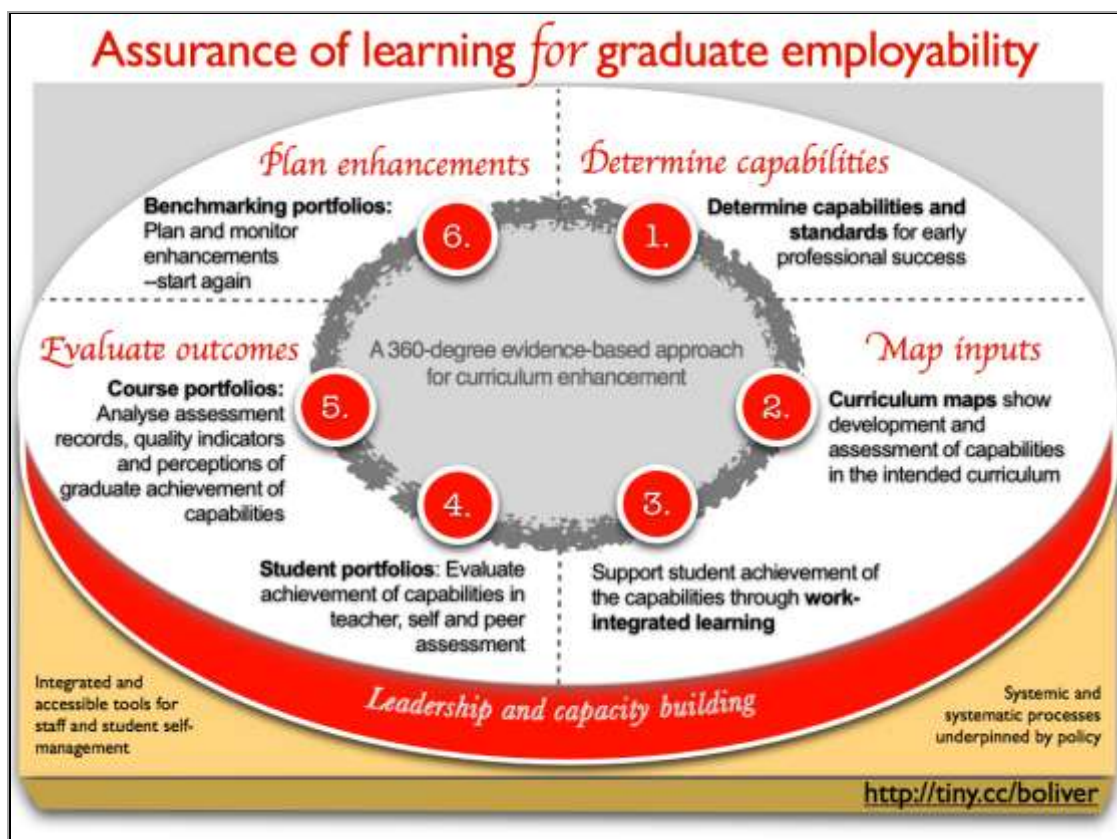
If graduate employability means enabling graduates to achieve “the skills, understandings and personal attributes that make [them] more likely to secure employment and be successful in their chosen occupations to the benefit of themselves, the workforce, the community and the economy” (Yorke, 2006), then these “skills, understandings and personal attributes”, described collectively as “the capabilities that count for early professional success”, are most likely to be achieved through a deliberate and focused 360-degree evidence-based approach to curriculum enhancement. The framework developed in this fellowship, see Figure 1, suggests this is most effectively achieved as a result of an integrated, ‘joined up’ process that: determines and maps intended curriculum inputs, including work integrated learning (WIL); evaluates outcomes such as evidence of students’ and graduates’ achievement of capabilities and other course quality measures; and benchmarks with like courses, planning, implementing and monitoring enhancements. Such a curriculum can only be effectively enacted where properly prepared and resourced leaders, staff and students can access tools to self-manage learning and the curriculum, within systemic and systematic processes underpinned by policy. In other words, this framework seeks to assist practitioners to answer these focal questions:

- What are the capabilities that count for the early professional success of graduates in this course, and at what level must they be achieved?
- How are those capabilities developed in the intended curriculum, including through WIL experiences, and how are they assessed?
- How successful are students and graduates in demonstrating those capabilities and how do we know (and what evidence do graduating students provide to assure their achievements)?
- How might we learn from peers with similar curricular responsibilities, and plan and monitor improvements?

This 360-degree approach to curriculum enhancement for graduate employability focuses on assuring achievement of the capabilities that count for early professional success by:



- determining the capabilities that count for graduates' early professional success, and the appropriate standards of achievement (expressed as composites of graduate attributes, employability skills, professional competencies and threshold learning outcomes)
- mapping the curriculum to ensure those capabilities are progressively developed and assessed, and enhanced through WIL experiences
- evaluating the outcomes through portfolio approaches to teacher, self- and peer assessment, both summative and formative; and gathering stakeholder perceptions of graduates' demonstration of the capabilities
- enhancing the curriculum based on benchmarking collaboratively with fellow travellers, planning and monitoring enhancements, and continuing the quality cycle.



**Figure 1 The 360-degree evidence-based approach to curriculum enhancement for graduate employability**

The 360-degree approach is not new: it is based on the ADRI model underpinning the quality audit process used by the Australian Universities Quality Agency (AUQA). It signifies Approach (mission, vision and values – eg the philosophy of teaching and learning, and intended outcomes), Deployment (how these are operationalised in curriculum); Review (measuring achievement of success) and Improvement (strategies for continuous improvement) (Woodhouse, 2003). Similar models have been described for curriculum enhancement to assure graduate outcomes. Ewell, for example, uses the following descriptors to communicate phases similar to the fellowship framework: Abilities, Alignment, Assessment and Action which, he adds, “together will give us the right kind of Accountability” (Ewell, 2004). The need to ‘join the dots’ in such a cyclical approach, as recommended in relation to the framework developed in this fellowship, has been emphasised previously by scholars in the field:



It might therefore be anticipated that the production of outcome-based benchmark information will be accompanied by development of curriculum mapping techniques to enable the information to be applied. It is the combination of processes (benchmarking and curriculum mapping) rather than benchmarking alone that will lead to a more explicit environment in which the dimensions of standards and the ways in which they are achieved and assessed are made clearer. This line of reasoning suggests that the need to provide learning and assessment opportunities to demonstrate achievement of the subject outcomes may have considerable implications for staff development (Jackson & D'Andrea, 2000).

The fellowship framework adds the focus on graduate employability, which of itself can be a standard for accountability (Oliver, 2008).



## 2. Capabilities: attributes, skills and competencies for graduate employability

### *Graduate attributes to capabilities<sup>1</sup>*

In Australia, the “skills, knowledge and personal attributes” in Yorke’s 2006 definition of graduate employability are generally described by universities as graduate attributes: “the skills, knowledge and abilities of university graduates, beyond disciplinary content knowledge, which are applicable to a range of contexts” (Barrie, 2004). The ALTC ‘National graduate attributes project’ (GAP) identified eight categories that cover the variety of graduate attributes developed in Australian universities. These are categorised as three *enabling* attributes (scholarship, global citizenship, and lifelong learning) which provide an overarching framework for five more discrete and discipline-specific *translation* attributes: research and inquiry; information literacy; personal and intellectual autonomy; communication; and ethical, social and professional understanding (Barrie, Hughes, & Smith, 2009).

A second recent study, ‘The B factor project: understanding academic staff beliefs about graduate attributes’, lists nine attributes “based on an analysis of the attributes listed by Australian universities; those identified as important in various industry and professional body lists; and those included in the Graduate Skills Assessment Project by the Australian Council for Educational Research Skills (2002)” (Radloff et al., 2009). The nine common attributes include critical thinking; written communication; problem solving; oral communication; independent learning; ethical practice; information literacy; teamwork; and information and communication technology literacy (Radloff et al., 2009). That report also contends that “by 2007 ... the link between graduate attributes, employability and lifelong learning was well established and recognised around the world, notably in the UK, Europe, US and Australia” (p. 3).

The *2007 Graduate employability skills* report (Precision Consulting, 2007) focused on the eight skills listed in the Employability Skills Framework, first published in 2002 (Department of Education Science and Training, 2002): communication, teamwork, problem solving, self-management, planning and organising, technology, lifelong learning, and initiative and enterprise. The report suggests that analysis of graduate attributes from a significant number of universities shows that employability skills, as outlined in the Employability Skills Framework, “may reasonably be seen as a subset of Graduate Attributes ... [which] provide an appropriate starting point from which to further explore any future work on employability skills” (Precision Consulting, 2007).

However, in spite of the significant focus on graduate attributes both the ‘National GAP’ and the ‘B factor’ reports suggest that there is, to some degree, a lack of ‘buy in’ by academic teaching staff in Australian universities. The latter found that academic staff were “more likely to emphasise and were most willing and confident to teach and assess critical thinking, problem solving and written communication . . . and least confident and willing to teach and assess teamwork, information literacy and ICT, attributes which are considered important by employers and industry, but less traditional to the academy. Oral communication, ethical practice and independent learning took the middle ground” (Radloff et al., 2009). Moreover, “the discipline also made a difference to the attributes academic staff emphasised in their teaching and assessment practice. Again, the attributes that may be considered conventional to the discipline were most likely to be emphasised” (Radloff et al., 2009). The ‘National

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<sup>1</sup> The literature review in this section is largely drawn from Oliver, B. (in review). Capabilities for graduate employability: what counts, and what gets counted? *Journal of teaching and learning for graduate employability*.





GAP' report states that:

For many staff the idea that graduate attributes should be a focus of their teaching is not one to which they subscribe, not because they are resistant or unaware of how to teach, but because their understanding of the nature of graduate attributes is incompatible with their understanding of what university teaching and learning is all about (Barrie 2004; 2007). So, despite the rhetoric of graduate attributes policy and despite the espoused claims of statements of course learning outcomes, the reality is that teaching in some courses has not changed from a model of transmission of factual content (Barrie et al., 2009).

### **Graduate attributes and threshold learning outcomes**

During 2010, the ALTC Learning and Teaching Academic Standards (LTAS) project was established to facilitate discipline communities in taking responsibility for the definition and implementation of academic standards. The working definition of academic standards in the project is “learning outcomes described in terms of discipline-specific knowledge, discipline-specific skills including generic skills as applied in the discipline and discipline-specific capabilities. The standards to be defined are threshold standards, expressed as the minimum learning outcomes that a graduate of any given discipline must have achieved” (Australian Teaching and Learning Council, 2010).

By November 2010, draft threshold learning outcome statements had been made available in eight active discipline groupings. A general scan of the draft outcomes suggests that at this point in their development they tend to mirror graduate attributes and employability skills, contextualised at the discipline level. At this stage, the future of the threshold learning outcome statements is unclear in relation to the forthcoming Tertiary Education Quality and Standards Agency. However, the statements have been created through extensive dialogue, consultation and agreement by academic teaching staff in their disciplines. It is imaginable that they will therefore bear strong resemblance to professional accreditation competencies or similar for degrees with a defined professional outcome. It is likely, therefore, that this might lead to their future meshing with, or even replacing, universities' more generic graduate attributes, particularly if they have an agreed role in describing academic standards within the revised Australian Qualifications Framework.

### **Capabilities as an encompassing term**

The achievement of graduate outcomes, to serve labour needs and national economies, has been a focus of interest in international higher education contexts for many years. There has been a focus on employability 'skills' (particularly in the UK) (Harvey, Moon, & Geall, 1997; Knight & Yorke, 2004), competences (the term often used in Europe, in association with the Tuning Process) (Auzmendi, Beza-nilla, & Laka, 2008) and as already indicated, 'graduate attributes' (particularly in Australia and now also in Scotland) (Hager & Holland, 2006). This focus has often led to lists of skills, usually described as generic and transferable, which may give the impression that they can be acquired once and for all, and in isolation from each other (Hager, 2006; Knight & Yorke, 2006; Yorke, 2006). The literature suggests this is not the case, nor should it be. Sound university education cannot be easily reduced to a 'tick list' of skills or competences, many of which are often ill-defined, overlapping, and difficult to measure (Hager, 2006). This fellowship uses one encompassing term to denote these skills, attributes and competences: 'capabilities', drawing largely on the work of Stephenson (1998) who defines 'capability' as [emphases added]:



an **integration** of knowledge, skills, personal qualities and understanding used appropriately and effectively ... in response to new and changing circumstances. Capability can be observed when we see people with **justified confidence** in their ability to: take effective and appropriate action; explain what they are about; live and work effectively with others; and continue to learn from their experiences as individuals and in association with others, in a diverse and changing society. Each of these four “abilities” is an **integration** of many component skills and qualities, and each ability relates to the others ... Capable people not only know about their specialisms; they also have the **confidence** to apply their knowledge and skills within varied and changing situations and **to continue to develop** their specialist knowledge and skills long after they have left formal education ... Capability embraces competence but is also **forward-looking**, concerned with the **realisation of potential** (Stephenson, 1998).

In summary, capability (using Stephenson’s definition) suggests lifelong learning, integration, and the confidence to realise future potential in a developmental and self-managed way. Such a term, with these connotations, gels with widely-agreed aims of university education, as well as Yorke’s definition of graduate employability (Yorke, 2006). “Capable people,” according to Stephenson, “have confidence in their ability to take effective and appropriate action, explain what they are seeking to achieve, live and work effectively with others, and continue to learn from their experiences, both as individuals and in association with others, in a diverse and changing society” (Stephenson, 1998).

Scott maintains that the appropriate outcomes for a university course must be based on the “capabilities that count” for the graduate’s early professional success in the first five years (Scott, 2005). In the 360-degree approach presented in this fellowship, the goal is to design and enhance the curriculum to enable appropriate capability development so that graduates can be “successful in their chosen occupations to the benefit of themselves, the workforce, the community and the economy”, particularly in their first five years of professional practice.

### **Capabilities encompassing graduate attributes, professional competencies and threshold learning outcomes**

Even though the term ‘capabilities’ resists the notion of “lists of attributes and competences”, such lists do exist and need to be evidenced: universities in Australia, for example, have published lists of graduate attributes. Professional accreditation bodies require the assurance of learning of published lists of competencies. These lists, of themselves, cannot describe the complexity of a graduate’s learning. The risk in listing such skills is that “they may become segregated in curricula and miss the integration that is necessary for the demonstration of the capability to handle the ‘messiness’ of problems in the real world” (Yorke, 1998).

Nevertheless, lists of skills or capabilities do enable curriculum designers to use focal points around which to interrogate curriculum inputs and outcomes. Often, the curriculum must reflect not one but several ‘lists’ and sometimes these lists overlap, or are at odds, or are considered by teaching staff as prevailing. Anecdotal evidence suggests, for example, that teaching staff can sometimes privilege professional accrediting competences over universities’ graduate attributes. To integrate and ensure inclusion of multiple lists, a simple technique, disseminated through this fellowship, is to map them using a proforma (see Figure 2). This produces one comprehensive list of ‘capabilities’ (or a similar term such as course learning outcomes) which are effectively the ‘goalposts’ for student learning (that is, an aggregation of graduate attributes, professional competencies, threshold learning outcomes, and so on. The figure suggests that graduate attributes define the order of



the capabilities but this is not necessary – the order can be defined by whichever list is considered most pertinent and easily communicated to students. And this is the key: engaged learning is more likely if students can clearly see the intended goal posts and their relevance to their intended profession, even when they enrol in a more generalist course with less well-defined professional destinations.










Curtin's Graduate Attributes	Professional accreditation competencies	Threshold learning outcomes	Capabilities (or Course Learning Outcomes)
 <b>1. Apply discipline knowledge</b> Understand theoretical underpinnings and ways of thinking; extend the boundaries of knowledge through research.			
 <b>2. Thinking skills</b> Apply logical and rational processes to analyse the components of an issue; think creatively to generate innovative solutions.			
 <b>3. Information skills</b> Decide what information is needed and where it might be found using appropriate technologies; make valid judgements and synthesise information from a range of sources.			
 <b>4. Communication skills</b> Communicate in ways appropriate to the discipline, audience and purpose.			
 <b>5. Technology skills</b> Use appropriate technologies recognising their advantages and limitations.			
 <b>6. Learning how to learn</b> Use a range of learning strategies; take responsibility for one's own learning and development; sustain intellectual curiosity; know how to continue to learn as a graduate.			
 <b>7. International perspective</b> Think globally and consider issues from a variety of perspectives; apply international standards and practices within a discipline or professional area.			
 <b>8. Cultural understanding</b> Respect individual human rights; recognise the importance of cultural diversity particularly the perspectives of Indigenous Australians; value diversity of language.			
 <b>9. Professional skills</b> Work independently and in teams; demonstrate leadership, professional behaviour and ethical practices.			

Figure 2 Mapping graduate attributes, professional competencies and so on to capabilities or course learning outcomes



### 3. Mapping capabilities in the intended curriculum

The framework suggests that, having determined the capabilities and the standards at which they must be achieved, the next step is to map student development and assessment of those capabilities throughout the course.

#### *Curriculum mapping<sup>2</sup>*

Scholarship about curriculum mapping in higher education appears to be somewhat limited. Curriculum mapping can be a matrix approach whereby teachers indicate where attributes are taught, practiced and assessed (Oliver, Jones, & Ferns, 2008; Oliver & Tucker, 2004; Sumsion & Goodfellow, 2004). It is useful in identifying gaps where skill development has been overlooked (Sumsion & Goodfellow, 2004). However, Barrie *et al.* observe that “curriculum mapping exercises often simply note that learning outcomes reference graduate attributes” (Barrie *et al.*, 2009). The latter approach is likely to lead to a compliance culture where engagement is limited to “tick and flick”. The empowerment of academic teaching staff is vital in curriculum review as they are the principal source of curriculum development (Graduate Careers Australia, 2008). Curriculum mapping can be a fearful exercise for academics if they do not understand, are resistant to change or have a sense of exclusive ownership of content (Davenport, Spath, & Blauvelt, 2009) or if they see its underlying purpose as course-cutting rather than improvement. It is therefore important that staff do not perceive curriculum mapping as threatening or as an administrative burden (Sumsion & Goodfellow, 2004). It should also be a cyclical process which includes the design of visual representations to create a curriculum that is fluid and adaptable to the changing needs of students, employers and the discipline (Uchiyama & Radin, 2009). Three major considerations for effective practice emerge from the literature: (1) the tool – an instrument, document or package which allows aggregation and visualisation of a course; (2) a process – the way in which the tool is used with and by teaching and support staff; and (3) the purpose for which curriculum mapping is adopted. Judicious use of the tool and the process for an appropriate purpose is likely to enhance staff engagement – the best tool used poorly will not engage staff; nor will the process be worthwhile if seen by teaching staff as bureaucratic ‘busywork’.

The limitations of the process of mapping the curriculum must also be borne in mind: mapping the curriculum is almost always focused on mapping the ‘intended’ curriculum – or the teacher’s plan in a particular unit (subject or module). The ‘intended’ curriculum does not always mirror the ‘enacted curriculum’ (what actually happens in the classroom), nor does it necessarily mirror the ‘experienced curriculum’ from the student’s point of view (Porter, 2004). Moreover, using a mapping tool to achieve a ‘broad brush overview’ of the degree from the student’s view (rather than a teacher’s view which is likely to be predominantly of the unit) is worthwhile and achievable – but, extending the metaphor of the ‘map’ of the intended curriculum, a ‘mud map’ is more achievable than, and just as useful as, a ‘satellite map’. In other words, a tool which provides a broad brush picture is less time-consuming and likely to be good enough to allow useful analyses of the curriculum and identify areas for enhancement. Drilling down to infinite detail is likely to be tedious and unhelpful – mapping is generally recognised to be a labour-intensive, if helpful, process (Kelley, McAuley, Wallace, & Frank, 2008; Wolf, 2007).

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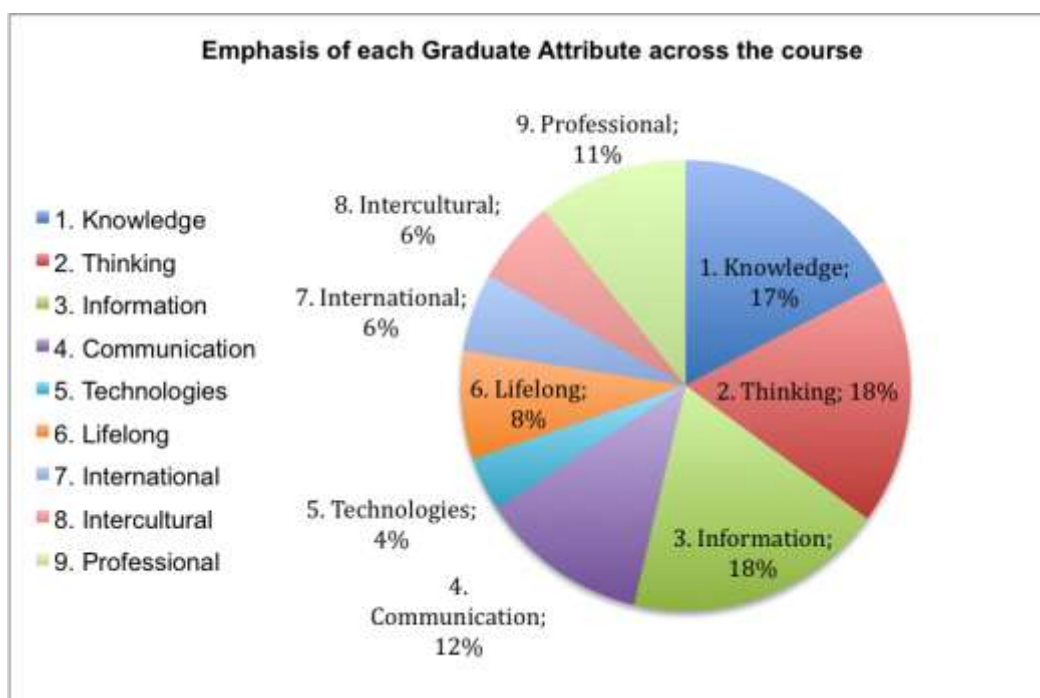
<sup>2</sup> This synopsis of the literature is largely drawn from Oliver, B., Ferns, S., Whelan, B., & Lilly, L. 2010, “Mapping the curriculum for quality enhancement: refining a tool and processes for the purpose of curriculum renewal”, paper presented at the Australian Universities Quality Forum, Gold Coast, Queensland, 2-3 July, 2010.



Curriculum mapping at Curtin was undertaken using a systemic and basic tool during Curriculum 2010 (C2010), the curriculum renewal project. Version 1 of the curriculum mapping tool was a labour-intensive ‘copy and paste’ process using a Word template and focused particularly on how and where in a course Curtin’s graduate attributes were contextualised, embedded and assessed (Oliver, Jones, Tucker, & Ferns, 2007). That first version did not interrogate other key aspects of the curriculum, such as the effectiveness of learning experiences and resources in assisting students to achieve unit learning outcomes, as reported in Curtin’s student survey of unit quality, eVALUate (Oliver, Tucker, Gupta, & Yeo, 2008), nor did it map levels of engagement with curriculum themes such as industry, internationalisation and interdisciplinarity. Moreover, it was evident that such a tool needed to update dynamically as soon as changes had been made, and the Word template always required manual updates.

Version 2 of the tool, abbreviated as CCMaP, was developed during this fellowship. It is an Excel workbook designed to aggregate course information from unit worksheets. The CCMaP creates six course analyses which display charts for quick visual analysis. The following descriptions are extracts from the CCMaP Introduction and User Guide (available in full at <<http://tiny.cc/boliver>>). The following paragraphs show examples of what the tool aggregates.

Each unit in the course has learning outcomes, indicating what successful students know or can do as a result of experiences in that unit. In the CCMaP, each unit learning outcome is aligned to at least one assessment task; each outcome is coded to up to three of Curtin’s graduate attributes to show what is assessed. The associated chart (see Figure 3) shows the broad emphasis of the graduate attributes aggregated at the course level. Using this overview, the teaching team decides whether the spread is appropriate to the course. If adjustments need to be made, they can change the individual unit worksheets, then re-generate the chart. Another chart (not shown here) shows the same emphasis on graduate attributes over time, that is, by their emphasis in each semester.



**Figure 3** An example of a visual analysis from the CCMaP showing emphasis of each graduate attribute in a course



At Curtin, policy directs that each unit has up to four assessments constructively aligned with learning outcomes. Assessments are complex and multifaceted tasks, and many defy simple categorisation: the intent in Version 2 of the CCMaP is to capture the predominant features of assessment tasks aggregated across the course and categorise the proportion of these by:

- type (percentage which are tests, presentations, reflections, final exams and so on) and a closer analysis of written tasks (percentage which are essays, reports, multiple-choice testing, short answer, or a combination of these)
- medium (percentage which are written, oral, performance, practical tasks)
- student role (percentage which are undertaken by individuals, pairs, groups)
- level of supervision (percentage which are closed book, open book and unsupervised tasks)
- mode (percentage of tasks which are face to face and/or blended learning)
- principal assessor (percentage of tasks assessed by teaching staff, industry preceptors, students, peers, and combinations of these)
- purpose (percentage of tasks which are summative – assessment of learning – and formative – assessment *for* learning)
- level of authenticity of tasks (that is percentage of level – low, medium, high – of work integrated learning).

Figure 4 shows the proportion of assessment tasks in a course according to type (such as test, presentation, reflection, investigation, exercise, work placement, laboratory, studio, final exam).

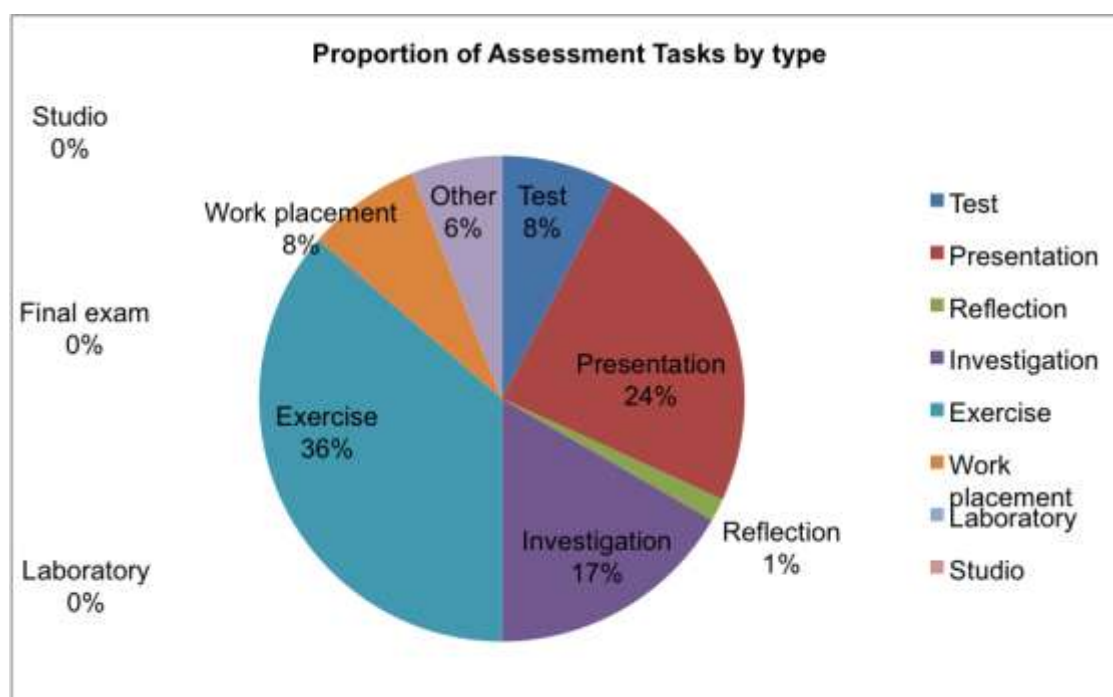


Figure 4 CCMaP visual analysis showing proportion of assessment tasks by type

Version 2 of CCMaP also attempts to capture an overview of the experiences the student encounters across a course. The categories attempt to investigate the level of engagement or active learning as: type (showing the most common types such as lectures, tutorials, seminars and so on); duration (length of classes); frequency (daily, weekly and so on); and predominant student activity, enabling a view of, for example, the proportion of the degree in which students largely listen and take notes. Similarly,



CCMap tracks the type of resources students experience across a course (for example, texts, web resources, equipment); frequency of use (daily, weekly, monthly); and direct costs to the student. The CCMap charts the level of engagement with five curriculum themes – industry, Indigenous, international, intercultural and interdisciplinary. Analysis is based on broad levels: Nil; Low (student engages with information about the theme; for example, information about indigenous issues); Medium (the student is required to achieve a skill related to the theme; for example, designing a culturally inclusive teaching plan for indigenous students); and High (the student has ‘hands on’ engagement related to the theme; for example, completing teaching practice in an Aboriginal community school). Finally, Version 2 of CCMap analyses Career Development Learning in the curriculum, using the *Australian Blueprint for Career Development (ABCD)* as a guide (Ministerial Council on Education Employment Training and Youth Affairs, 2009). Eleven key competencies are outlined in three broad areas, in keeping with the *ABCD*: Personal Management; Learning and Work Exploration; and Career Building. Four levels of engagement with each are nominated: Act, Personalise, Apply and Acquire.

### **Dissemination and review**

Version 2 of the CCMap is a prototype and was designed to be shared and then superseded by a dynamic tool integrating with university systems. The user guide, available at the fellowship website, specifies the terms and conditions under which the tool was shared – the key condition was peer review of the tool. To date, CCMap has been requested and been shared with 41 adopters within and beyond Australia. Towards the end of the fellowship and with ethics approval, all users were invited to provide qualitative feedback on the best aspects of the tool and how it might be improved. Participants were informed that the Excel file was a prototype so issues related to its limitations were not of prime interest in the evaluation. Several of those who had requested the tool were very apologetic when reporting lack of use owing to time constraints, staff attitude or the need for significant preparatory work in their institution. To date, 15 users have provided feedback:

- Best aspects of the tool include its evidence-based approach, and the fact that it was easily shared. Curriculum map users generally indicated that the tool was well-developed and comprehensive and easily consolidated many units. The instant graphical feedback was seen as a real advantage of the tool, as it allowed for the testing of hypothetical or ‘what if’ scenarios. Some felt the process of reflection and mapping that the tool facilitated was of equal or greater importance.
- Feedback on how the tool could be improved could be divided into two aspects: difficulties encountered and suggested improvements. Users noted that it is difficult to incorporate minors or optional units in the map. They also commented that having more units or learning outcomes than the map allowed for, or changing the pre-filled options (such as the types of learning resources, level of supervision) required extensive re-coding. Suggested improvements were to: add in a clear definition of terms used; allow users to add options to the drop down lists; and include explicit instructions for making adaptations, such as adding other dimensions. One user noted that an online system that is connected to various university systems, such as staff and unit databases, would be a useful enhancement.

Because of different requirements and policies at different institutions, the curriculum map was sometimes adapted to include data entry mechanisms, how feedback is provided, criteria for achieving a pass, levels of blended learning, use of a learning management system, and connection of learning outcomes to assessable tutorial attendance.



It is clear from the initial scan, and from the number of requests to trial this tool, that there is great interest in and activity around the concept of curriculum mapping, with many institutions already building sophisticated systems, and many others interested in using the Curtin tool to see what can be done. It might be helpful, therefore, if a more detailed snapshot could be taken of the sector to explore the sophisticated systems already in place, and those under construction. Moreover, if such a report focused on the common principles and pitfalls in embedding and integrating such systems, this would be even more useful.

### *The connection with work integrated learning*

Work integrated learning (WIL) can denote a range of activities – from ensuring assessments are based on case studies to placing a student in a professional work setting (Patrick et al., 2008). Employability can be enhanced by work-related activities that do not include doing “a job of work”, and there has been great interest for some time in developing authentic tasks (Little, 2006). Herrington, Oliver and Reeves list the characteristics of ‘authentic activities as reported in the literature: paraphrased, they found that authentic activities are generally characterised as ill-defined and complex tasks with real world relevance requiring investigation from different perspectives over time using a variety of resources. Such tasks provide the opportunity for students to collaborate and reflect and can result in polished and valuable yet diverse products and artifacts (Herrington, Oliver, & Reeves, 2003). Such authentic activities can be extremely valuable in bringing the professional world to the classroom.

At the other end of the spectrum is structured work experience (often described in the UK as work-based learning) which has been found to have positive effects on the ability of graduates to find ‘graduate-level’ employment within six months of graduation (Mason, Williams, & Cranmer, 2006). Research has shown that students with work placement experience have higher rates of full-time, permanent employment after graduation, and a more favourable view of their course (Harvey, 2005). According to Little (2006), the essential characteristics of effective work-based learning experiences include: a clear understanding by students, employers, academic staff and employees that learning is the goal of the experience (reinforced through induction, ongoing reflection, debriefing and identification of outcomes); that it must be accredited, even where there is low-stakes or formative assessment, so that it is taken seriously; evidence of learning should be presented in a portfolio where students record what they have learned, with illustration and commentary; and quality must be monitored (Little, 2006).

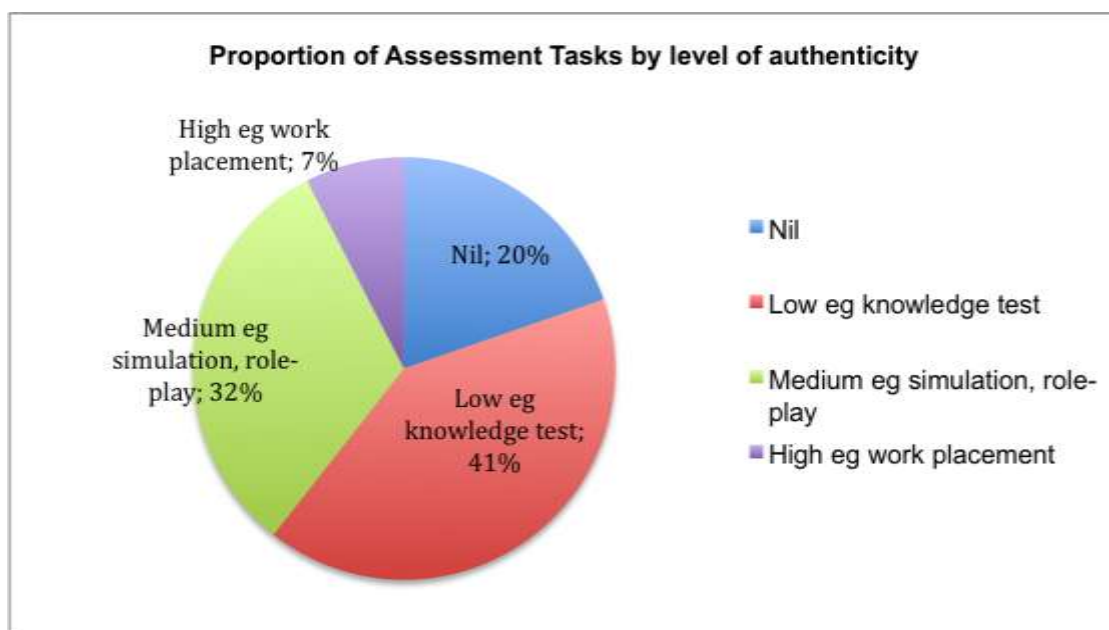
In a similar vein, Harvey contends that learning from work experience can be effective if it is: relevant to future career development; planned and intentional from the outset, assessed or accredited: and integrated into the program curriculum, preferably adding to a work experience portfolio (Harvey, 2005). Other types of work-based learning include ad hoc work experience (casual, part-time, vacation or full-time employment) (Harvey, 2005), and even mentoring of junior students, or engagement in student representative activity (Yorke & Knight, 2006). Some institutions credit the student’s own casual employment as part of the course (Little, 2006). As with all quality learning experiences in higher education, it is not necessarily the experience of work integrated or work-based learning itself that is paramount: it is the learning that comes from reflection (Little, 2006), preferably in connection with summative assessment if it is to be taken seriously (Yorke & Knight, 2006). Employability is a complex concept (Knight & Yorke, 2006) and assessing complex achievements is time-consuming and therefore expensive (Little, 2006).





In addition to the areas noted previously, Curtin's CCMMap attempts to WIL and this was not an easy task, partly because WIL can be any number of activities across a broad spectrum (Patrick et al., 2008). The solution for mapping was derived by deliberately connecting the spectrum of WIL to authentic assessment, or the proximity of each assessment task to real world professional practice. The CCMMap visual analysis (see Figure 5) shows four broad categories – Nil (to show where there is absence of WIL), Low, Medium and High.

**Figure 5 A Proportion of assessment tasks by level of authenticity (WIL)**



Examples provide some guidance about these mapping categories, but they are as yet very broad and require further finessing. In addition, WIL as a key driver of employability (see above) needs to be integrated into the 360-degree framework presented in this fellowship. Rather than thinking about WIL in relation to how it appears in a curriculum map, student performance in associated tasks needs to be analysed; WIL experiences make excellent material for reflection within student portfolios (denoted as point 4 of the framework, and dealt with in more detail in the section which follows). WIL experiences also affect graduate and employer feedback and benchmarking (points 5 and 6 of the framework, respectively).



## 4. Evaluating student achievement of capabilities: student portfolios

The framework includes evaluation of achievement of capabilities (point 4), particularly through an analysis of student performance. The problem with analysing student results in units (subjects or modules) is that analysis is often predicated on the final percentage mark or grade achieved – not an analysis of what sorts of assessments went into the mix, or even more important in regards to this framework, which capabilities were actually assessed, and at what level. Point four of the framework is arguably the most challenging because evidence of student achievement is rarely pinpointed to particular capabilities, can be formative or summative, and come from a range of assessors (teacher assessment, student self-assessment and peer-assessment, as well as assessment by external agents such as workplace supervisors, mentors and so on). In spite of its difficulty, this phase of the 360-degree evidence-based approach is essential: “a learning-centred campus strives for more effective levels of learning based upon clear goals, aligned experiences, multiple assessments, and *improvements suggested by data from assessments*” (emphasis added) (Miller, 2007). Miller adds: “Learning suffers when any part of the cycle is neglected: students who might have otherwise succeeded may fail as a result” (Miller, 2007). The corollary is also true, and perhaps more dangerous. If students graduate by achieving at least a pass mark in each of their units, and we cannot identify which capabilities they have achieved at an appropriate standard, and which they have not, then, to paraphrase Miller, “students who might have otherwise failed may succeed as a result”.

Student assessments serve multiple purposes: with proper and careful analysis, they assess individual student learning within units and across units; they provide one indicator related to the quality of units; they provide a snapshot when aggregated to the level of the course; and they can inform institutional effectiveness (Miller & Leskes, 2005). Such use is predicated on an assessment design which is “organised holistically across subjects and programs with complementary integrated tasks” (Boud, 2010):

The development of a full range of graduate attributes requires a systematic approach to assessment that builds and enhances those attributes through tasks that are diverse, complementary to each other and embedded strategically throughout a program of study. Integrated whole-of-program curriculum design needs to incorporate assessment and feedback as well as learning outcomes and teaching and learning activities. If carried out in this way, an emphasis on feedback for learning can be the focus of teaching and learning engagement in the early curriculum, leading to capstone and integrated assessment in later years (Boud, 2010).

### *Capabilities and standards*

Following the Bradley Review (Bradley et al., 2008), a new national body for regulation and quality assurance will soon be established: the Tertiary Education Quality and Standards Agency (TEQSA). TEQSA will oversee strengthened quality assurance arrangements in Australian higher education (Gillard, 2010): “It will accredit providers, evaluate the performance of institutions and programs, encourage best practice, de-clutter current regulatory arrangements and provide greater national consistency” (Department of Education Employment and Workplace Relations, 2010b). Of particular interest here is that institutions will be required to demonstrate that their graduates have the capabilities that are required for successful



engagement, and that demonstration will be tied to academic standards – that is, evidence that graduates achieve the capabilities at the appropriate level and as required within disciplines and for professional contexts. The ALTC Learning and Teaching Academic Standards project has demonstrated how discipline communities (professional, academic, regulatory, educational) might define discipline-based learning outcomes in terms of “minimum discipline knowledge, discipline specific skills and professional attributes and capabilities” (Australian Teaching and Learning Council, 2010). A quick scan of the results in that project – particularly the draft threshold learning outcomes – suggests that most of the eight disciplines’ “professional attributes and capabilities” cluster around the five areas of communication, thinking, teamwork, civic and ethical engagement, and self-management.

The next step in this process, and key to implementing the framework developed within this fellowship, is to clarify the required standard (level of performance) in those capability clusters at the point of graduation. Holistic rubrics (with descriptors of hallmark performance levels expected by graduation) could guide student, peer, and teacher judgments about graduate readiness for professional and safe practice. Such rubrics would portray for all stakeholders, within and beyond the academy, clear and transparent agreed standards of performance in the determined capabilities. For example, an oral communication rubric might describe levels of performance expected at the point of graduation (using as a starting point perhaps the Dreyfus and Dreyfus novice to expert categories) (Benner, 1984; Dreyfus, 2004). For each level of achievement, the rubric could contain descriptions of hallmark achievement, examples of student performance (text, image, movie, audio), as well as suggested assessment strategies.

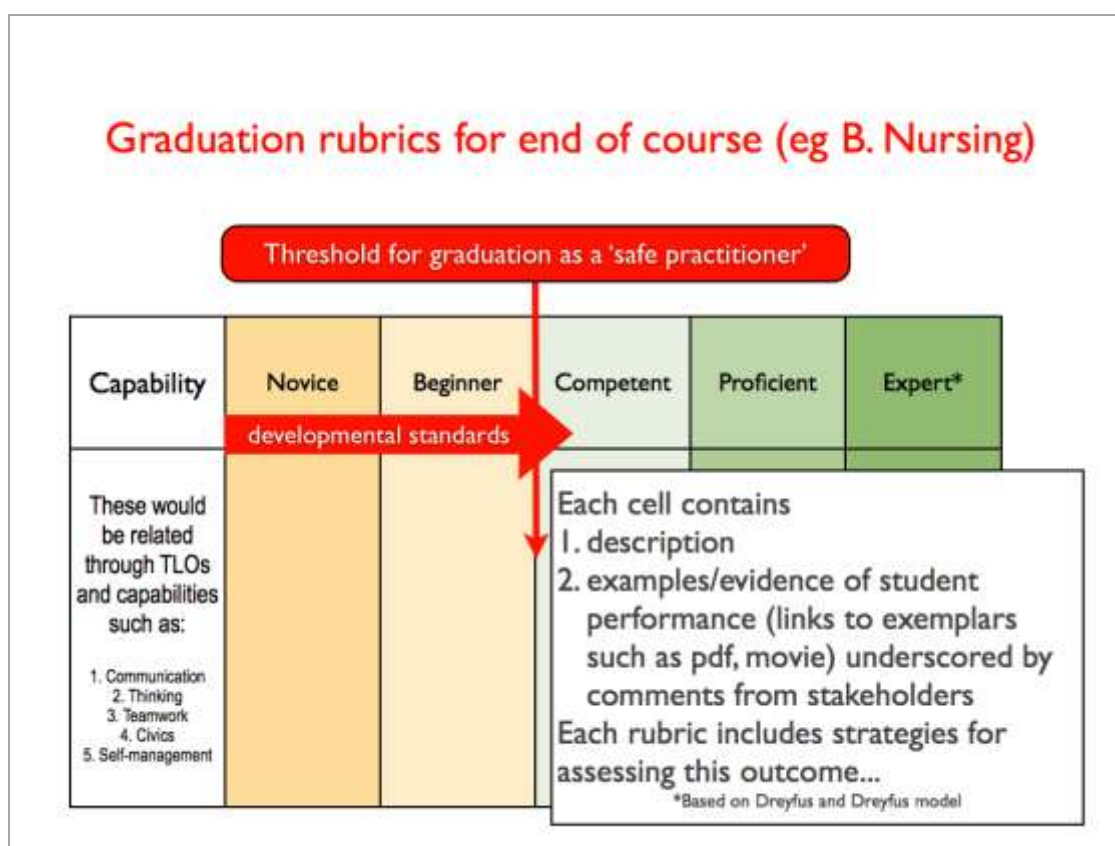
The use of rubrics for self- and peer-assessment (formative as well as summative) is key: capability requires “the ability of a student to assess his or her performances and development” (Yorke, 1998). Self-monitoring, according to Sadler, means that students make conscious judgments without help from teachers or peers and this entails being weaned away from ongoing dependence on external feedback, irrespective of its source or character (Sadler, 2009). It also requires “an appreciation of what makes a work of high quality [as well as] enough evaluative skill to compare, with considerable detachment, the quality of what the producer is creating with what would be needed for it to be of high quality” (Sadler, 2009). The assessment of capability is therefore “a complex and time-consuming task” and one of its obstacles is the unitisation of courses since assessment tasks “are dis-integrated and allow no overall view (other than, at best, a highly inferential one) of the extent to which a student has developed capability” (Yorke, 1998).

The idea of creating end of course holistic rubrics is not new: the Association of American Colleges and Universities (AAC&U) in the US, to counter the effects of national standardised testing, embarked on a national project to determine, among other things:

- An alternative to the prevailing push for a single score (from tests such as the Collegiate Learning Assessment) purported to represent learning for students and institutions.
- A shared set of expectations for learning that faculty can use in the classroom, and that can be articulated so that students can use them to understand and make judgments about their own learning strengths and weaknesses (Rhodes, 2010).



The outcome of the AAC&U's Valid Assessment of Learning in Undergraduate Education (VALUE) project is the VALUE Rubrics <<http://www.aacu.org/value/rubrics>> which could be a model or starting point for the creation of the course-level rubrics in the Australian context.



**Figure 6 Graduation rubrics describe shared expectations of standards of performance at the end of the course**

The Office of Assessment Teaching and Learning at Curtin University plans to begin trialling the creation of these end of course rubrics (called in the first instance Graduation rubrics) that indicate what is required to be competent proficient or expert new practitioner by graduation (see Figure 6), in collaboration with course teams in 2011. Progress updates will be made accessible through the fellowship website. The use of the rubrics as the basis for summative assessment of particular capabilities will be a challenging task, and if successful, will go some way towards filling a crucial gap in course profiling – that is, being able to determine which students achieved the capabilities that count, and at the appropriate standard, and what can be done to improve the curriculum and student performance in readiness for employability.

Through the VALUE Project, the AAC&U (paraphrased here) also maintained that:

- What students and faculty do through teaching and learning constitutes a most complex set of processes; learning needs to occur across a broader set of outcomes than standardised test measures.
- Learning is developmental and emergent over time, progressing faster in some outcome areas than in others and becoming more complex and sophisticated as students move through their educational pathways (Rhodes, 2010).

AAC&U also explored whether there is a way for students to demonstrate their



learning through the cumulative work they are asked to produce across the curriculum and cocurriculum, rather than just through a snapshot test (Chen & Light, 2010).

As in the US, the usefulness in Australia of portfolio approaches to student assessment (that is, using portfolios or e-portfolios<sup>3</sup>) seems obvious because they are “a means for students to reflect systematically on their own learning; for faculty to represent and evaluate multimodal ways for students to demonstrate their learning through text, performance, visual or audio media; and for institutions and programs to assess, document, and share student learning through the curriculum and cocurriculum” (Chen & Light, 2010). E-portfolios enable student self- and peer-assessment of capabilities across distances and over time. They are also known as personal learning environments, digital portfolios, webfolios, e-folios, performance management tools and personal development records (Hallam et al., 2008). E-portfolios are produced for a variety of purposes and at different stages in a person’s academic or professional career, including job applications, transitions, assessment, personal development planning and continuing professional development. They are collections of evidence of both the products and process of learning, attesting to achievement and personal and professional development, by providing critical analysis of its contents (McMullan et al., 2003), and a collection of digital artifacts articulating learning (both formal and informal), experiences and achievements (JISC InfoNet, 2009; Joint Information Systems Committee, 2006b, 2008). E-portfolios can also be separated into ‘types’ based on their purpose: assessment e-portfolios are used to demonstrate achievement by relating the evidence and artifacts in the e-portfolio to performance or assessment standards; presentation e-portfolios are often used to demonstrate professional qualifications; learning e-portfolios are often used to document and guide learning over time, often containing a prominent reflective component; personal development e-portfolios, like learning and presentation e-portfolios, contain records of personal, educational and career development. Multiple-owner e-portfolios are often used to represent the work and growth of an organisation or group; and working e-portfolios often contain multiple views that are analogous to the types listed above (Hallam et al., 2008).

### *International uptake*

Studies show that by 2007 just over half of universities in the UK offered some form of e-portfolio to their students, with their use tripling across all higher education sectors since 2003 (Joint Information Systems Committee, 2006a; Strivens, 2007). In Australia, the 2008 ALTC project, ‘ePortfolio use by university students: developing a sustainable community of practice’ found that the state of play in Australia was highly fragmented, but there was strong interest across the sector (Hallam, Harper, Hauville, Creagh, & McAllister, 2009). A supplementary scan in 2010 confirmed a high level of interest in e-portfolios across the sector, along with the belief that “ePortfolios had the potential to assist students to become reflective learners, conscious of their personal and professional strengths and weaknesses, as well as to make their existing and developing skills more explicit, with an associated value apparent in the graduate recruitment process” (Hallam, Harper, McAllister, Hauville, & Creagh, 2010). A similar picture emerges in the US: uptake has been very high, particularly in relation to the VALUE Project (Chen & Light, 2010). Four major drivers are: pedagogical change in higher education, increasing technological capacity of digital communication technologies, the pressure for increased accountability in higher education, and

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<sup>3</sup> ‘E-portfolio’ is the term used in this report. It is acknowledged that not all portfolios are electronic, and that not all institutions can or have provided e-portfolios for their students to date. Increasingly, students can create their own web-based portfolios using free systems such as Google docs, see Dr Helen C. Barrett’s site <<http://electronicportfolios.com/google/index.html>>



increasing fluidity in employment and education (Clark & Eynon, 2009).

### *E-portfolios and employability*

Reflective learning is a key facet of employability: e-portfolios are one of the current sites for reflection, along with blogs, wikis, audio and video self-recording, digital stories and other online self-assessment tools (Australian Flexible Learning Network, 2009). Many of these tools are increasingly incorporated into e-portfolio systems. With frequent career change and an increased need for lifelong learning, e-portfolios have the potential to enable a lifetime portfolio to be built with formal records, evidence of achievement and personal development planning following the lifelong learner through school, college, university, work, and continuing professional development (JISC InfoNet, 2009). Employability can be a strong driver for learners to engage with e-portfolios as in many systems, students can personalise the view that they present to different prospective employers (although the assumption that employers will or want to access student portfolios is questionable) (JISC InfoNet, 2009). E-portfolios are a way of demonstrating evidence of 'softer skills' to employers, such as teamwork and communication and similar capabilities highlighted in this fellowship (Stefani, Mason, & Pegler, 2007). In some industries, such as medicine and related subjects, professional bodies require evidence of continuous professional development for maintaining registration (Halstead & Wheeler, 2009). This has obvious links to e-portfolio use by undergraduates who intend working in such industries, and their continued use beyond graduation is encouraged.

### *iPortfolio at Curtin*

During 2009, as part of Curriculum 2010, Curtin built an e-portfolio system (called iPortfolio) for implementation across the university. A key feature is the student's ability to self- and peer-assess achievement of graduate attributes (Oliver & Nikolettatos, 2009; Oliver, 2009). The iPortfolio (see Figure 7) has Curtin's graduate attributes as its main focus. The My Ratings tab enables self-assessment of attainment of the graduate attributes, enabling the owner to collate evidence and reflections and assign themselves an overall star-rating based on Dreyfus and Dreyfus' Five-Stage Model of Adult Skill Acquisition (Dreyfus, 2004). The iPortfolio owner can invite feedback on their My Rating space from peers, employers, academic mentors, or teaching staff. Future enhancements include making feedback comparisons visually available to owners: that is, radar graphs which show owners' ratings in comparison to peers.





**Figure 7 Curtin's iPortfolio, like many universities' e-portfolio systems, focuses on the self- and peer-assessment of graduate attributes**

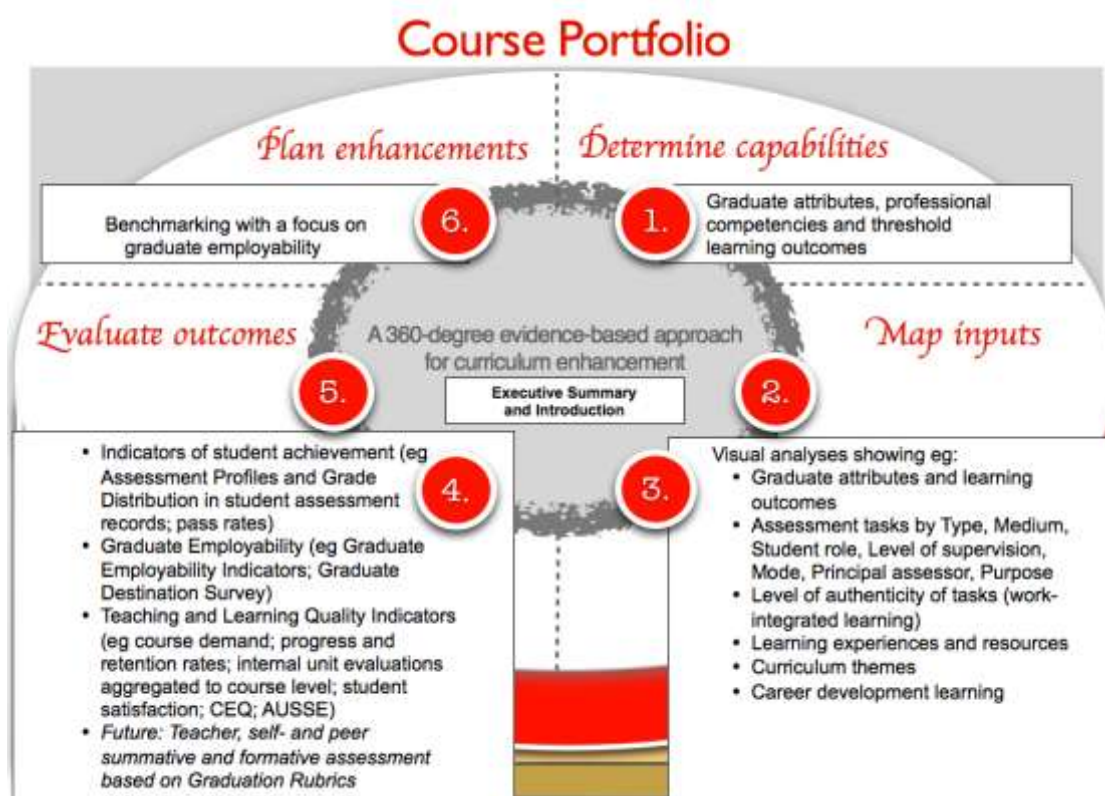
Although not originally intended as a tool for dissemination as part of this fellowship, because of its relevance to point 4 of the framework, the iPortfolio has also been shared with many colleagues beyond the university, and their reviews have contributed to the refining and further development of this tool. The fellowship framework (showing the “joined up” approach to curriculum) suggests future enhancements: for greatest effect, students need tools so that they can self-manage their attainment of the capabilities that count. Unit-based learning management systems (LMS) such as Blackboard do not usually completely allow student self-management: LMS spaces are often teacher-controlled, and silo students in their enrolled units. E-portfolios that are course-wide, even better institution-wide, allow a course-wide and ‘life-wide’ approach to the overall achievement of capabilities. In such a space, students could also access and self-manage in relation to:

- course information through student access to curriculum maps
- graduation rubrics as key assessment tools where they can rate their progress over time towards the achievement of course-specific capabilities
- graduate and employer perceptions of the importance of capabilities in their intended profession (see next section), which can guide their learning and self-development.



## 5. Evaluating student achievement of capabilities: course portfolios

Evidence-based course curriculum reviews draw on all available indicators to create a 360-degree account of: the views key stakeholders such as current students, recent graduates, employers and industry experts, as well as those gained through benchmarking partnerships. Curtin's Needs Analysis was developed during the Curriculum 2010 project, and it incorporated early versions of the graduate and employer surveys described above, as well as a range of other national and institutional indicators (Jones & Oliver, 2008). The Needs Analysis, disseminated as part of this fellowship, aimed to provide the evidence to answer two key questions: How might this course curriculum change and why? and how can this course's strengths be maintained, and issues addressed? The first version of the Needs Analysis has been enhanced during this fellowship. It is built on the framework, and is presented as a portfolio of 'business intelligence' pertaining to course quality. Renamed as the **Course Portfolio**, it includes the areas as illustrated in Figure 8:



**Figure 8 Sources of evidence in the Course Portfolio**

The **Course Portfolio** includes, to date (and *in the future*):

### Executive Summary

**Introduction:** background information about the course such as its history, staffing profile, cost analysis, structure and demographics, and implementation of recommendations from previous reviews and accreditation process, emerging future needs (collated perceptions of trends in associated disciplines and industries from course teaching team, industry, advisory boards, professional bodies).





**Section 1: Determining capabilities** (this includes mapping graduate attributes, professional competencies and threshold learning outcomes using methods such as the proforma illustrated in Section 2).

**Section 2: Mapping inputs** (including visual analyses generated from the curriculum mapping tool illustrated in Section 3) as appropriate to the course team's needs:

- graduate attributes and learning outcomes
- assessment tasks by type, medium, student role, level of supervision, mode, principal assessor, purpose
- level of authenticity of tasks (work integrated learning)
- learning experiences and resources
- curriculum themes
- career development learning.

**Section 3: Evaluating outcomes**

- indicators of student achievement (such as assessment profile of selected units; grade distribution in student assessment records; pass rates)
- indicators related to graduate employability (eg Graduate Employability Indicators, see Section 5; Graduate Destination Survey)
- teaching and learning quality indicators (eg course demand; course activity; student progress; eVALUate unit survey results aggregated to course level; Curtin annual satisfaction survey course results, CEQ scales; AUSSE)
- *future: teacher, self- and peer- summative and formative assessment based on standards graduation rubrics.*

**Section 4: Planning enhancements**

- Benchmarking with a focus on graduate employability (see section 6).

An example Course Portfolio is available for download at the fellowship website.

### Graduate Employability Indicators

A national report published in 2007, *Graduate Employability Skills*, explored key issues related to identifying, developing and assessing graduate employability (Business Industry and Higher Education Collaboration Council, 2007)<sup>4</sup>. The report's findings, like others before it (Department of Education Science and Training, 2002; Department of Employment Education Training and Youth Affairs, 1998) confirmed that graduates are expected to be equipped with a broad range of skills and attributes that enhance their opportunities for employment, enable them to perform well in the workplace, and have successful careers. Currently, Australian indicators specifically measuring employability are limited. The Australian Graduate Survey incorporates the Graduate Destination Survey (GDS) which reports graduates' uptake of full-time and part-time work or further study, their employer and salary. The Course Experience Questionnaire (CEQ) includes the Generic Skills Scale which draws on self-reported graduate measures of problem-solving and analytic skills, team work, confidence tackling unfamiliar problems, written communication, and the ability to plan one's own

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<sup>4</sup> This literature review is largely drawn from Oliver, B., Hunt, L., Jones, S., Pearce, A., Hammer, S., Jones, S., et al. (2010, 2-3 July). *The Graduate Employability Indicators: capturing broader stakeholder perspectives on the achievement and importance of employability attributes*. Paper presented at the Australian Universities Quality Forum 2010, Gold Coast, Queensland.



work (McInnis, Griffin, James, & Coates, 2001). Graduate satisfaction in terms of employability can also be gleaned from qualitative comments and analysed using tools such as CEQuery (Oliver, Tucker, & Pegden, 2006; Scott, 2005). There is no routine national collection of employer satisfaction with university graduate skills in Australia, nor are there any national measures of academic staff perceptions or capacity around graduate achievement of attributes. In 2008, the Australian Council for Education Research (ACER) investigated graduates' employment outcomes five years after completion. ACER's Graduate Pathways Survey (GPS) includes an item which investigates graduates' perceptions of the role of their course in the achievement of 14 attributes and skills (Coates & Edwards, 2009). This item is similar in the Australasian Survey of Student Engagement (AUSSE) (Australian Council for Educational Research, 2008) and the National Survey of Student Engagement (NSSE) (Kuh, 2001). This item, with its 14 'skills and attributes' informs the Graduate Employability Indicators, surveys that gather the perceptions of graduates, employers and course teaching teams in relation to the teaching, assessment, achievement and importance of employability skills in specific courses.

The Graduate Employability Indicators (GEI) are an outcome of the ALTC project 'Building course team capacity to enhance graduate employability', and a full analysis of the GEI will be included in that project's report in May 2011. Brief background information is provided here in relation to the fellowship framework. The GEI are designed to supplement the Australian Graduate Survey and provide more comprehensive graduate employability data from a broader range of stakeholders at course level:

1. Graduate perceptions<sup>5</sup> of:
  - a. the extent to which their experience during their degree contributed to their development of the capabilities, and their overall work-readiness (quantitative items)
  - b. the importance of each capability to the early professional success of new graduates of this degree (quantitative items)
  - c. the best aspects of the degree in helping develop capabilities for employment, and suggestions for improvements (qualitative items).
2. Employer perceptions<sup>6</sup> of:
  - a. the extent to which new graduates demonstrate each of the capabilities, and their overall work-readiness (quantitative items)
  - b. the importance of each capability to the early professional success of new graduates of this degree (quantitative items)
  - c. what skills, attributes and personal qualities are most useful for new graduates in this field, and which can be prioritised for improvement (qualitative items).
3. Course team perceptions<sup>7</sup> of:
  - a. the extent to which new graduates demonstrate each of the capabilities, and their overall work-readiness (quantitative items)
  - b. the importance of each capability to the employment success of new graduates of this degree (quantitative items)
  - c. their confidence in teaching and assessing the capabilities (quantitative items)
  - d. their role in assisting students to develop the capabilities, and the main incentives and disincentives for doing so (qualitative items).

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<sup>5</sup> The target group for this survey is all graduates – up to and including the previous five years.

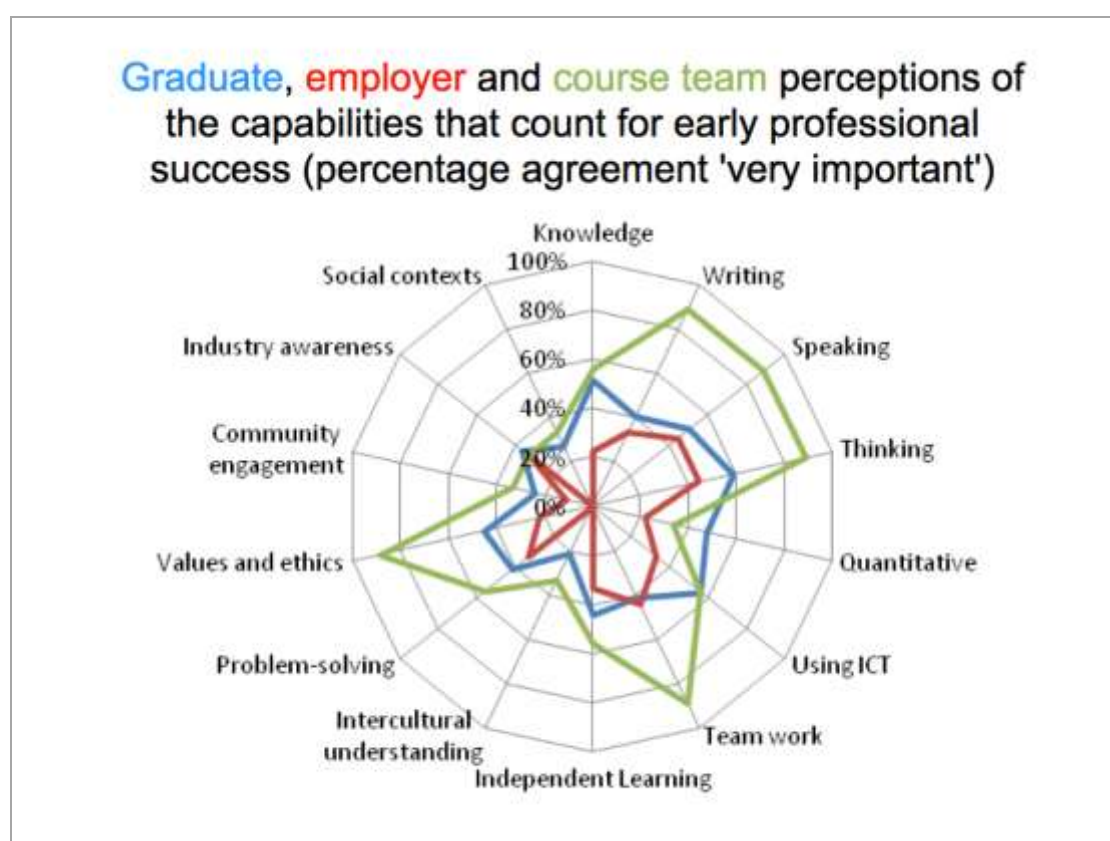
<sup>6</sup> The target group for this survey is employers in related professions. Employers are asked to base their responses on their perceptions as they relate to all new graduates (of to the past five years), and not only the graduates of the requesting institution.

<sup>7</sup> The target group for this survey is all those who teach the course including full-time, part-time, sessional and casual staff.



The 14 capabilities in the GEI map to most universities' graduate attributes and generic capabilities:

1. Acquiring work-related knowledge and skills
2. Writing clearly and effectively
3. Speaking clearly and effectively
4. Thinking critically and analytically
5. Analysing quantitative problems
6. Using computing and information technology
7. Working effectively with others
8. Learning effectively on your own
9. Understanding people of other racial and ethnic backgrounds
10. Solving complex, real world problems
11. Developing a personal code of values and ethics
12. Contributing to the welfare of your community
13. Developing general industry awareness
14. Understanding different social contexts.



**Figure 9 An example of quantitative results as reported in the Graduate Employability Indicators**

Full text of the items in the GEI can be found in the user guide at the fellowship website. The GEI items and response scales are being tested during the pilot of the surveys. Results are presented in a comprehensive report including visual representations like the example shown in Figure 9. The GEI has been disseminated as part of this fellowship. To date, 50 course leaders from 10 institutions have requested that the surveys be administered, and 39 have been completed. So far, responses have been received from a grand total of 1544 graduates, 385 employers



and 266 teaching staff involved in those courses. User evaluations, combined with a validation of the surveys and response scales, will be reported in full in the project final report.



## 6. Benchmarking partnerships

### *Benchmarking courses with a focus on graduate employability<sup>8</sup>*

In the UK, there has long been a focus on employability, often expressed as personal development planning (PDP). This process grew out of recommendation 20 of the 1997 Dearing Review which directed higher education institutions to develop the “means by which students can monitor, build and reflect upon their personal development” (Jackson, 2001). The Quality Assurance Agency (QAA), established in 1997, monitors how well universities safeguard standards. It also seeks to identify good practice and make recommendations for improvement, and publishes guidelines to help institutions develop effective systems to ensure students have high quality experiences. In particular, QAA has worked with the sector to develop “a set of nationally agreed reference points which give all institutions a shared starting point for setting, describing and assuring the quality and standards of their higher education courses” (Quality Assurance Agency, n.d.). These reference points include the Subject Benchmark Statements which define what can be expected of a graduate in terms of the abilities and skills needed to develop understanding or competence in the subject (some combine or make reference to professional standards required by external bodies) (Quality Assurance Agency, n.d.). This is an example of benchmarking against a minimum standard, as many Australian degrees are required to do for accreditation purposes.

The Australian Government has recently announced a clearer and more direct focus on related issues: widening participation (equity) and clear minimum quality benchmarks (standards) will be funding-driven requirements of all higher education institutions by 2011 (Gillard, 2010). In the interim (that is, in 2010), the Australian Learning and Teaching Council has the task of coordinating discipline communities’ definitions of academic standards – that is, determining up to six high-level core learning outcomes (threshold academic standards that describe core discipline knowledge and core discipline-specific skills) for degree programs such as undergraduate accounting (Australian Learning and Teaching Council, 2009). This type of ‘standards matching’ seems not dissimilar to the UK model of using Subject Benchmarking Statements.

### **Benchmarking in Australian higher education to date**

The emphasis on standards naturally leads to benchmarking, described as “a process of articulating standards” (Bell, 1999). Benchmarking allows universities to assess their performance and improve their practice (Garlick & Pryor, 2004) in a cyclical process that involves feeding back information for further improvement (Henderson-Smart, Winning, Gerzina, King, & Hyde, 2006). It therefore involves both quality assurance (QA) and quality enhancement (QE) (Henderson-Smart et al., 2006). Until about 10 years ago, Australian higher education institutions had been slow to take up benchmarking as a quality improvement process (Weeks, 2000) and efforts had mostly focused on processes outside of the classroom because it was easier to determine process than quantify the outcomes of practice (Epper, 1999). This is particularly true in relation to teaching and learning: in 1995, Ramsden and colleagues recommended establishing benchmarking partnerships in order to identify and share best practice of recognising and rewarding good university teaching (Ramsden, Margetson, Martin, & Clarke, 1995) even though learning and teaching were (and still are) generally considered to be the most challenging area to

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<sup>8</sup> This synopsis of the literature is largely drawn from Oliver, B. (2010, September 27 - October 1). *Benchmarking with a focus on Graduate Employability: Why, how and with what?* Paper presented at the Australian Collaborative Education Network (ACEN) Conference, Perth, <[www.acen.com.au](http://www.acen.com.au)>



benchmark in higher education because of difficulties in arriving at a consensus for the scope (Henderson-Smart et al., 2006) as well as a lack of quantitative measures by which an institution's performance in teaching and learning can be judged.

Since 1999, with the development of the Australian University Quality Agency (AUQA), universities have been required to determine what 'quality' actually is and take responsibility for the quality of what they do (Henderson-Smart et al., 2006). In 2000, a benchmarking manual was produced by the Department of Education, Training and Youth Affairs for use in Australian universities (McKinnon, Walker, & Davis, 2000). Its focus was on the whole university, rather than individual courses and programs (Henderson-Smart et al., 2006). It was widely used but also subsequently criticised for its focus on quantitative data and its competitive nature (Garlick & Pryor, 2004). Benchmarking has been a particular focus of AUQA since its establishment: benchmarking has frequently been mentioned in AUQA audit reports, though more than two-thirds of the references are recommendations for improvement (Stella & Woodhouse, 2007). This highlights the developmental nature of benchmarking in Australian institutions to date: AUQA audit reports have frequently commented on the following as "needing improvement" (that is, as recommendations): the need to use a set of key teaching and learning indicators to internally benchmark; benchmark accreditation processes against those used by Australian universities; and benchmark criteria used for supervisor selection. International benchmarking has generally been found to be weak across the sector (Stella & Woodhouse, 2007).

This analysis of institutional AUQA reports suggests that there is more development needed if higher education providers are to use benchmarking to improve practice and outcomes. Garlick and Pryor (2004) suggested that *collaborative* rather than *competitive* benchmarking is more likely to be conducive to improving quality in higher education, even though initiatives such as the Learning and Teaching Performance Fund (Department of Education Employment and Workplace Relations, 2009) have subsequently pitched universities into fierce competition. The literature also suggests that benchmarking in higher education is most likely to be successful when:

- Academic staff have ownership of the benchmarking process (if it is seen as a silo activity or not rewarded and recognised, benchmarking is likely to be superficial and seen as 'just another task' that academics must squeeze into their busy schedules) (Garlick & Pryor, 2004).
- It is kept relatively simple (Garlick & Pryor, 2004) and used as a trigger for internal review and improvement, rather than external accountability (Henderson-Smart et al., 2006) or an indicator of competitiveness (Garlick & Pryor, 2004; Weeks, 2000).
- Universities seek partners beyond those institutions that most resemble themselves within a sector or discipline (Epper, 1999).
- It is a continuous process of learning from others even though it is labour-intensive and time-consuming rather than a quick and easy process (Alstete, 1996).
- It is focused on the potential benefits of improvement rather than measurement: information has to be the basis for action, particularly in enhancing student learning (Brown, 1999).
- It is developmental rather than regulatory (Yorke, 2000).

### **Graduate employability as a focus for benchmarking**

As explained throughout this report, in this fellowship the focus is on developing graduate 'capabilities', an umbrella term which implies integration, confidence and



future performance (Stephenson, 1998). More specifically, it is focused on graduate achievement of the “capabilities that count” for early professional success (Scott, 2005; Scott et al., 2008). To encourage engagement by teaching academics who have direct influence on the curriculum, it is deliberately focused on benchmarking at the course level, rather than department or institution. It is also a confidential process, well away from league tables and other competitive strategies. The process is intended as a “trigger for internal review and improvement, rather than external accountability” (Henderson-Smart et al., 2006). Interestingly, a focus similar to the one used here was developed in the UK in the mid-1990s: Jackson reports that the Higher Education Quality Council initiated work with a number of subject communities “to examine the feasibility of using the concept of *graduateness* (the attributes that a person graduating with a degree might be expected to possess)” and that this helped shape the Quality Assurance Agency’s concept of subject benchmarking (Jackson & D’Andrea, 2000). One discipline, biological sciences, took the process a step further “by identifying the attributes considered to be essential to the graduate and comparing these with the attributes that are actually assessed” (Jackson & D’Andrea, 2000).

### **Benchmarking partnerships for graduate employability: the process**

The benchmarking process designed in this fellowship has eight proposed steps, designed to draw on lessons from the literature, and based on a reflective approach to curriculum enhancement. The eight steps are designed for an efficient but comprehensive experience, with due regard for confidentiality and institutional approval. The focal participants in the process are the benchmarking partners: each partnership consists of a course team represented by at least one course leader, ideally the person responsible for the quality and delivery and curriculum enhancement of the course. Each course leader was required to:

- Express interest in participating by contacting the fellowship team.
- Complete the Benchmarking Information Checklist which includes preliminary details, contact information, and ‘in principle’ agreement from the appropriate executive staff member(s) and signed confidentiality agreements from all.
- Engage their colleagues as appropriate, especially the head of school; advisory board or professional body if appropriate; the course team (full-time, part-time and casual staff); students, graduates and other appropriate stakeholders (this engagement with peers is likely to lead to more sustainable outcomes).
- Initiate the Graduate Employability Indicators.
- Prepare the Benchmarking Portfolio – reflecting with the course team and others where appropriate – then decide which parts of the portfolio should be shared with selected benchmarking partners.
- Confirm the benchmarking partners and benchmarking event (time, place and mode) and confirm executive support for the evidence that will be shared.
- Engage with partners at the benchmarking event, sharing summary material from the Benchmarking Portfolio (consider the reasons for current successes, and how to maintain them, as well as strategies to address weaknesses and enhance outcomes).
- Share the outcomes of the benchmarking event with internal and external stakeholders, including executive. Secure strategies: funding, timelines and indicators to provide evidence of future success and maintain ‘critical friendships’ with the benchmarking partners. Document the outcomes in preparation for the next benchmarking event.

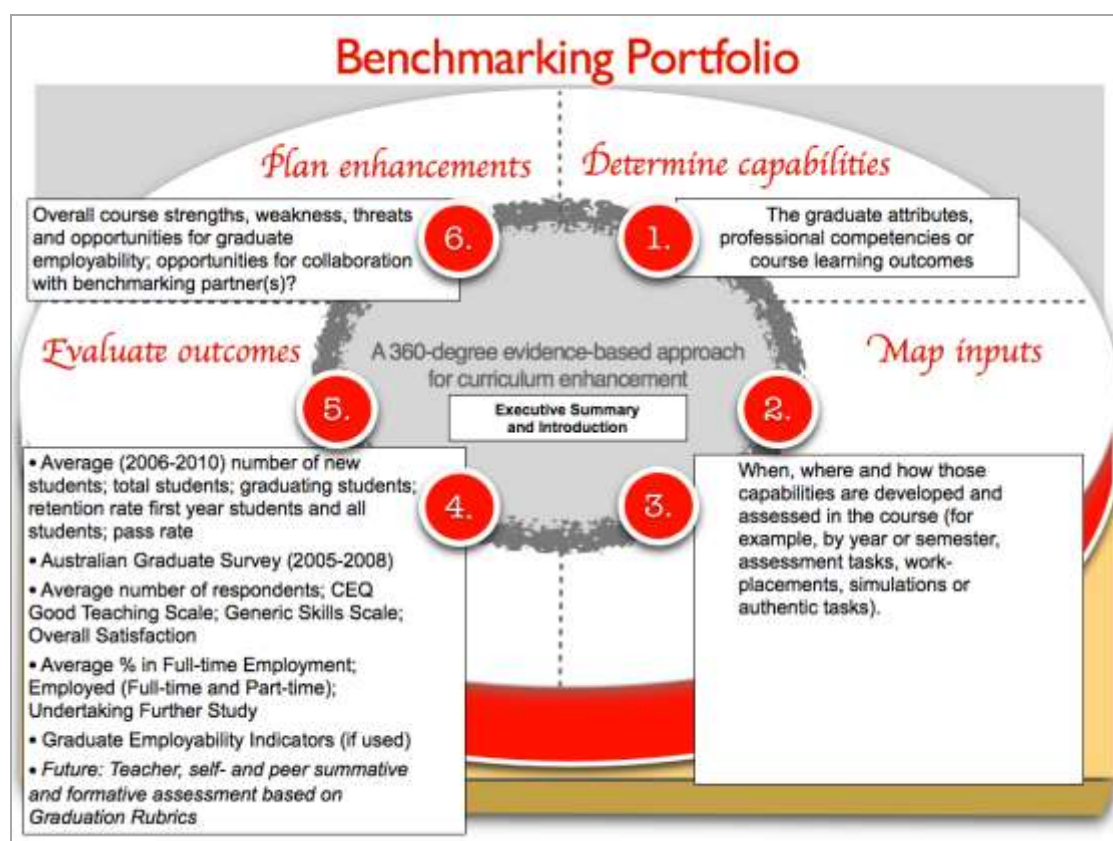
To mirror the fellowship framework and to emphasise the collaborative and reflective aspects of this style of benchmarking, the process included consideration of a broad



array of reflective (qualitative) evidence and data-driven (quantitative) evidence of the course inputs (eg where key capabilities are developed and assessed in the curriculum) as well as the course outcomes (evidence that graduates of this course have the “capabilities that count”).

The partnerships were designed as collaborative learning experiences, undertaken with mutual respect and within agreed confidentiality boundaries, within which course leaders agreed to share reflection and evidence as a starting point for ongoing and mutually beneficial planning, implementing and monitoring of enhancements to effect enhanced graduate employability. Considerable time was needed to broker the partnerships: the fellow spent substantial amounts of time communicating with potential partners, suggesting partners, and encouraging partners to remain in the pool.

By way of preparation, it was recommended that benchmarking partners complete the Benchmarking Evidence Portfolio. This was a comprehensive document but early feedback from course leaders suggested it was also a daunting document. As a result, the more selective Benchmarking Portfolio (see Figure 10) requiring less quantitative and qualitative data, and still including sections for course team reflections, was substituted.



**Figure 10 Sources of evidence in the Benchmarking Portfolio**

### **Outcomes: trialling the benchmarking process**

Engaging course leaders to participate in this process was a challenge throughout the fellowship. At peak, 76 course leaders (including two from international institutions) registered interested in participating in face-to-face benchmarking. As expected, this number dwindled owing to logistical, time and funding constraints and so on – travel funding was not available for the Melbourne benchmarking event.

In Melbourne on 4 November, 24 course leaders from 13 institutions participated





face-to-face in the benchmarking event and provided feedback<sup>9</sup>. The afternoon included two one-hour sessions: partners could elect to change partners in those sessions, or remain with the same partner. Project and fellowship team members acted as observers. Follow-up with those participants and their future collaborations will be monitored through the ALTC project 'Building course team capacity for graduate employability'.

Table 1 Benchmarking course leaders

	In attendance	Name of course	Institution
Business disciplines	Dr Anja Morton	B.Business	Southern Cross University
	Catherine Studdert	B. Business	Southern Cross University
	Dr Sara Hammer	B.Com (Accounting)	University of Southern Queensland
	Dr Geoff Slaughter	B.Com (Accounting)	University of Southern Queensland
	Dr Stacey Porter	B.Com (Accounting)	Curtin University
	Associate Professor Glenda Scully	B.Com (Accounting)	Curtin University
	Fiona Henderson	B.Com (Accounting)	Victoria University
	Beena Giridharan	B.Com Marketing or Management	Curtin Sarawak
	Dr Riccardo Natoli	Bachelor of Business (Accounting)	Victoria University
	Dr George Brown Stuart Wiggins	AdDip in Hospitality	William Blue College of Hospitality Management
B.Business (Hospitality Management)		William Blue College of Hospitality Management	
B.Business (Tourism and Hospitality)		William Blue College of Hospitality Management	
Health Sciences disciplines	Peter Hartley	B.Heath Science (Paramedic)	Victoria University
	Associate Professor Richard Brightwell	B.Sc (Paramedical Science)	Edith Cowan University
	Tim Pointon	Bachelor of Health Sciences (Paramedic)	Flinders University
	Dr Lisa Tee	B.Pharmacy	Curtin University
	Dr Libby Hotham	B.Pharmacy	University of SA
	Professor Ysanne Chapman	B.Nursing	Central Queensland University
	Dr Melanie Birks	B. Nursing	Monash University
Communications and related disciplines	Dr Joseph Fernandez	B.A (Journalism)	Curtin University
	Paul Bethell	B.Arts (Media and Communication)	Deakin University
	Katharina Wolf	B.Com (Public Relations major)	Curtin University
	Phillipa Brear	B.Communication (Public Relations)	RMIT University
	Alison Feldman	B.Mass Communication	University of Southern Queensland
	Kate Ames	B.Professional Communication	Central Queensland University

### Evaluations and observations

Course leaders were invited to evaluate the event (with due ethics approval) immediately afterwards. All course leaders chose to participate and completed 12 open-ended, qualitative questions in writing (the evaluation appears as Appendix A). The responses were transcribed and themes in the responses are summarised below.

<sup>9</sup> Other partnerships with Australian and international partners are scheduled to take place in the future but they are not reported here.



Overall, the course leaders were very positive and enthusiastic about the event, its format and focus. The majority of respondents had some form of assistance in the preparation for this event; a few had received no assistance. Course leaders commented that the preparation for the event could have been improved by having more time, a pre-meeting earlier in the process to better orient themselves with the task, having a clearer framework with less overlapping documentation, and ensuring that all benchmarking course leaders had thought about the issues prior to the event. The number of partners course leaders engaged with on the day ranged from one to six and many commented that engaging with their partner was beneficial. When asked about how much time should be allocated to engage with a benchmarking partner for an exercise such as this, the views of the course leaders varied: most suggested from a half-day to a full day. The majority of course leaders felt that the benchmarking summary was a helpful guide, with some commenting that it served as a useful prompt. Some of the course leaders commented that they would continue to study and use the data after the event. Few course leaders commented on material to be added or deleted. Those who did mentioned the need for more clarity in assessment of capabilities, benchmarking of assessment profiles against related disciplines/courses, the desire for better response rates to the Graduate Employability Indicators (GEI), and more detail about the course.

When asked about the best aspects of this process, course leaders mentioned sharing their experiences, ideas, insights, practices and concerns with like-minded people; and having time with colleagues for discussion. According to one course leader, the benchmarking event provided the impetus to engage the school on benchmarking:

It certainly engages the school to focus on benchmarking. This has been done in an action plan, but due to workload it has not been conducted in a manner that we would like. So this has provided the kick-start.

The most common responses were in relation to: improving the process by providing more time for discussion between the partners; the need for an ice-breaker (potentially prior to the benchmarking event); and the need for more preparation to establish areas of concern and interest prior to the event itself. A few course leaders commented on the need for more structured or facilitated discussions to ensure that people stayed on track. Course leaders listed a variety of things that they were hoping to achieve by engaging in this process, including the identification of gaps, opportunities and common issues, meeting and learning from others and comparing different programs with their own. One of the course leaders commented that they expected some form of formal, auditable, benchmarking document, although another acknowledged that this is the start, rather than the end, of the process. For the most part, course leaders felt that their expectations had been met. When asked about issues that need to be addressed if benchmarking is to be effective in improving practice, course leaders' comments included:

- the need for wider representation and the continued involvement of stakeholder groups, such as the professional association
- the need for more preparation, such as a survey undertaken prior to the exercise to determine what people would focus on
- more focus to the discussion
- established plans for ensuring that benchmarking and momentum continue after the initial exercise
- benchmarking in generic courses
- the identification of relevant standards.



Course leaders were quite adamant that although electronic means (such as teleconferencing, videoconferencing, or using systems such as Skype or Elluminate) might be helpful for follow-up discussions, there was no substitute for face-to-face encounters for initial meetings in this context. All indicated that they intended to continue collaboration with at least one of their benchmarking partners after the event, mainly through email. Course leaders indicated that they planned to use the benchmarking event outcomes in reflection and feedback with their course team, curriculum design and mapping, course accreditation or re-accreditation, and to share resources between institutions. In their other comments, many course leaders expressed that the process was valuable, positive and informative.

### Observers

Seven colleagues (members of the project and fellowship teams) acted as observers on the day (after agreement was sought from course leaders), and all had agreed to maintain confidentiality.

Table 2 Benchmarking observers

Beatrice Tucker	Curtin University
Sonia Ferns	Curtin University
Associate Professor Sue Jones	Curtin University
Barbara Whelan	Curtin University
Professor Lynne Hunt	University of Southern Queensland
Associate Professor Sandra Jones	RMIT University
Professor Denise Chalmers	University of Western Australia

The observers' task was to sit in on the benchmarking conversations and record their observations – which were constrained to general topics discussed, issues encountered in the benchmarking, stumbling blocks in the benchmarking process, and how the benchmarking process or documentation could be improved. The observers were asked not to record any data or any issues which might be confidential or identifying, or construed as such. They were also asked not to engage in the conversation, but to answer questions where clarity was needed. At the conclusion of the benchmarking conversation, the observer shared their notes with the course leaders for their approval. In addition, the observers completed an evaluation form (see Appendix B). The observations (as well as evaluations) were de-identified, collated and are summarised below.

Comments from observers indicated that the benchmarking partners engaged in animated conversations, asked probing questions of each other, were 'hungry' for information and willing to share what they had done. All of the observers felt that one hour was insufficient, as evidenced by the groups continuing through to the second round with the same partners. This was the case for small groups as well as large, although the large groups appeared to be more pressured and rushed to complete in time. Observers noted that the time allocated was sufficient to build commonality and trust, and to establish the synergies between the programs, but more time might be necessary to find solutions to common problems. Observers generally suggested that up to half a day would be the optimum length for the event, with most observers perceiving two hours to be an appropriate length of time for the *initial* benchmarking discussion. Some suggested that this exercise should be done over a period of time, rather than as a single benchmarking exercise. Observers noted that the benchmarking summary was generally used as a guide, starting point or source of information for the benchmarking partners but was not critical for the conversation. Course leaders sometimes digressed from this summary and from the graduate employability dimension.



Observers' comments on their perceptions of the best aspects of the process were mainly around having the opportunity to benchmark with others, sharing concerns and experiences, developing understandings and building critical friendships. One observer noted that the unstructured nature of the exercise led to flexible and diverse conversations. Others commented that more time would improve the process, particularly for large groups. Other comments were that the benchmarking partners should make initial contact prior to the benchmarking event. A few of the observers commented that there needed to be more opportunity to share their information, such as through inclusion of additional material in the benchmarking summary (course structure, exemplars), though time was a critical factor in this regard. As many of the groups were going to follow up these discussions with each other, it was noted that it would be helpful to explore the opportunities for online collaboration. Some of the observers noted that the employability focus was not always there, but this may be owing to the need to 'test the waters' and build trust between the benchmarking partners.

Observers noted that some groups focused broadly on the big picture or course level, covering topics such as the future of the profession and where higher education fits in, and the processes and policies of individual institutions and their impact. Others focused on the unit level, or specific capabilities seen to be problematic. It was noted by more than one observer that the benchmarking partners rarely focused on graduate capabilities or graduate employability, leading the observers to suggest that this aspect should be covered in subsequent discussions. While some course teams were seen to have prepared extensive documentation and were willing to share, data was not shared between other groups and in some cases, participants had not prepared data to bring to the discussion. Some observers took note of issues identified by the course leaders that may impact on course outcomes, such as:

- staff knowledge and confidence around teaching and assessing capabilities
- potential mismatch between methods of teaching and assessing and actual practice
- maintaining quality with high levels of casual and sessional staff
- moderation, particularly across multiple locations
- teaching and assessment knowledge of practicum support staff.

This is by no means an exhaustive list of identified issues. Observers noted that the benchmarking discussions revealed these shared difficulties, and provided course leaders with an opportunity to share ideas and resources to tackle these difficulties. Some benchmarking partners identified resources that could be shared between the partners to address identified issues. These included institutional policies and curriculum mapping documentation around work integrated learning (WIL), and teaching and learning resources, such as marking guides for oral communication, and resources around managing and assessing group work.

### **Where to from here?**

The enthusiasm and openness of those course leaders who engaged in this event showed the professional development and curriculum quality potential of such activity. That benchmarking partnerships were confidential, collaborative and at course level seems to have struck a chord with participants. They appeared to appreciate the time and opportunity to have an 'evidence-based' and somewhat guided, if rather broad-ranging, conversation with peers. However, funds for travel costs and time for course leaders to engage in this way are in short supply, and it would appear that at least half a day is a good minimal time investment, and face-to-face encounters for initial meetings are highly preferable. It also seems that such



benchmarking can take place in pairs or in larger groups. It might be sustainable, therefore, to suggest to councils of deans, that discipline-based conferences and key meetings (as well as teaching and learning events) be meeting points for those keen to benchmark. For example, adding a half-day meeting time to a conference or meeting already planned and funded might enable this type of benchmarking to be sustained over time. Using electronic means (such as teleconferencing, videoconferencing, or using systems such as Skype or Elluminate) might also be useful for follow-up conversations.

One of the challenges of benchmarking at course level is, as the Benchmarking Portfolio shows, there are few indicators in common across the sector – unlike non self-accrediting institutions, universities can draw on indicators such as the Australian Graduate Survey. At course level, accreditation competencies, as well as the recently-developed threshold learning outcomes, may provide more commonality, as might the GEI and curriculum mapping focusing on similar capabilities. As suggested by course leaders at this event, clear enunciation of standards – or rubrics describing levels of performance at graduation – will provide more common benchmarking evidence.

Another challenge beyond this fellowship will be to have a ‘broker’ to assist and coordinate benchmarking partnerships: for example, it was helpful to have one central point of contact to express interest in benchmarking, access a process and documentation, consider a range of partners, and so on. No such ‘clearing house’ facility currently exists. It is possible that existing bodies may be able to provide this function for discipline groups – for example, professional bodies, councils of deans – or more broad-based bodies such as ALTC, TEQSA or similar.

The course leader and observer feedback will now be used to review the process and guidelines for benchmarking, and these will be made available through the fellowship website. In the second half of 2011, two assessment-related conferences will be hosted at Curtin University, and these will build in a half-day where interested course leaders may opt to undertake or repeat the benchmarking process trialled during this fellowship. Curtin University’s Office of Assessment Teaching and Learning will continue to use the benchmarking process created in this fellowship, and will seek partners for courses completing Comprehensive Course Review. Those course leaders wishing to find a partner are welcome to nominate themselves (expression of interest) to be added to a list which will be downloadable at the fellowship website.

The process described here, and trialled during this fellowship, is designed to enable course leaders and their teams to explore curriculum enhancements with trusted partners, and may go some way towards building collaborative networks as well as scholarly, evidence-based reflection on the outcomes of teaching and learning. Federal government initiatives such as the standards agenda and the launch of TEQSA are likely to mean more rather than less benchmarking at various levels. Done well, with energy and attention and an eye to enhancing graduate employability, benchmarking partnerships may be one way of reinvigorating curricula for a changing world.



## 7. Dissemination

### *National forum*

The *National forum on graduate capability development: mapping, assessing and evaluating achievement for graduate employability* was held on 5 November 2010 in Melbourne. This national forum was intended to facilitate learning and teaching leadership, national networks and conversations about the nature, meaning, and standards of graduate capability development in discipline contexts; staff development and strategies for developing graduate capability; strategies to enhance practice in the development of graduate capabilities; and evaluation of graduate capability development and benchmarking with a graduate employability focus.

The program included two keynotes: *A 360-degree evidence-based approach: capability development for graduate employability*, Professor Beverley Oliver, Curtin University, ALTC Fellow; and *The national agenda on standards of capability development and the link to graduate employability*, Dr Carol Nicoll, Chief Executive Officer, ALTC. Professor Jane den Hollander, Vice-Chancellor of Deakin University, chaired the panel under the broad heading of *What can higher education providers do to meet the challenges of Graduate Capability Development?* Panel members included students and staff from universities and industry bodies. In the afternoon, participants elected to attend one of three symposia:

- mapping and assessing graduate capabilities
- leadership and capacity-building for graduate capability development
- evaluating and benchmarking graduate capabilities.

### **Outcomes of the symposia**

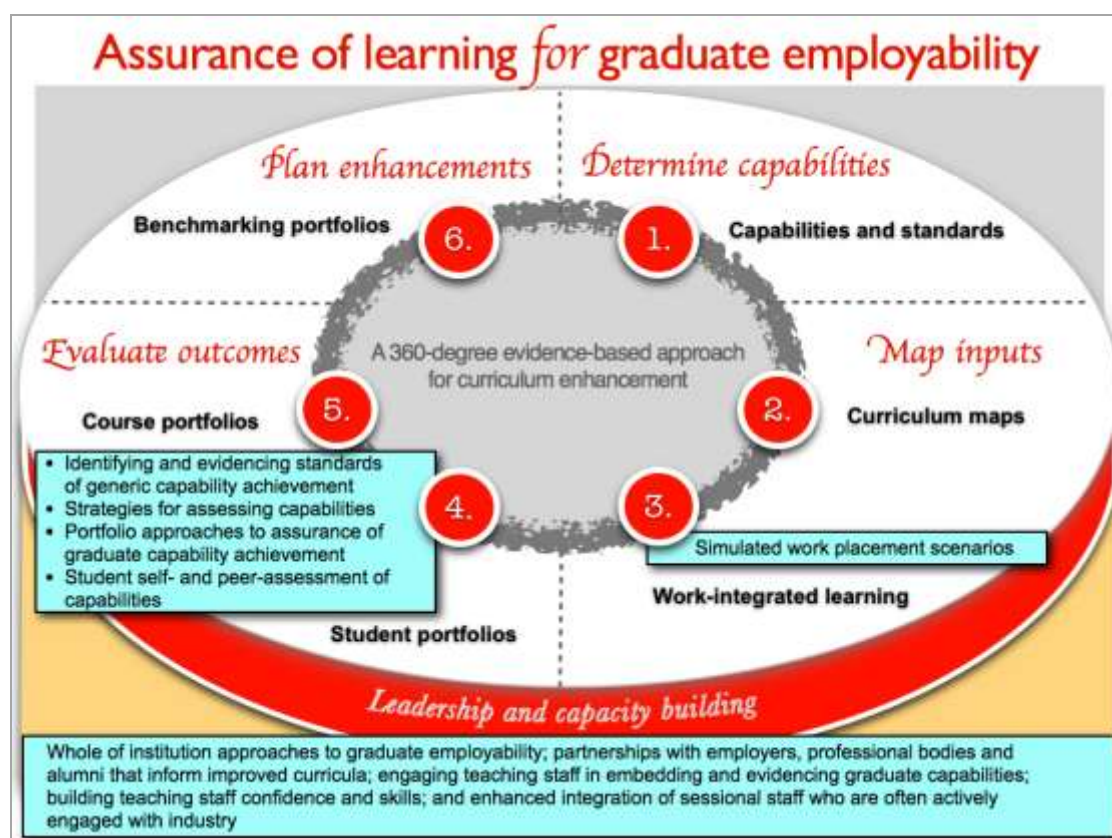
The intended outcome of the symposia was that participants would share ideas and approaches with potential partners to develop or improve tools and processes in the future, including networks for potential research and publication. Small groups in the symposia generated strategies for future work. The focus was on collaborations which were potentially useful to the sector rather than individual institutions. In the final plenary session, originally titled *Nine opportunities to participate in collaborative solutions*, each strategy was communicated to the broader group, and participants could indicate (on cards) which they thought were “good and worthwhile pieces of work” (I like it!), and which they would like to be involved in (I’m in). These were collected and collated after the event. All information was posted on a blog (Collaborations) on the fellowship website, and participants were invited to follow up with comments.

Figure 11 shows strategies generated on the day and subsequently mapped to the framework. They were conceived in answer to the question: “What good piece of work could be done to address an issue, preferably across the sector, related to Mapping, Assessing or Evaluating Achievement of Capabilities for Graduate Employability?” The emphases in the strategies show quite clearly: unsurprisingly, the two areas are closely related to assessment and evidencing of standards, and leadership and capacity building:

- **Assessment and evidencing of standards:** identifying, assessing and evidencing standards of generic capability achievement; portfolio approaches to assurance of graduate capability achievement; student self- and peer-assessment of capabilities; shared expectations of levels of performance at graduation.



- **Leadership and capacity building:** whole of institution approaches to graduate employability; enhanced and integrated partnerships with employers, professional bodies and alumni that inform improved curricula; engaging teaching staff in embedding and evidencing graduate capabilities; building teaching staff confidence and skills; and enhanced integration of sessional staff who are often actively engaged with industry.



**Figure 11 Strategies for future work created at the national forum and mapped to the framework**

### Evaluation of the national forum

Overall, 111 people attended the national forum, 88 (or 79 per cent) from a university (six were dual sector universities), 12 (or 11 per cent) from private providers, five (or 5 per cent) from TAFE/VET and six (or 5 per cent) from other institutions, including educational and professional associations and companies. Evaluation forms were completed at the end of the day and collected, collated and analysed. Sixty participants responded. Table 3 presents a summary of the responses. The majority of participants who provided feedback indicated that the forum sessions were both informative and engaging, and 91 per cent of respondents reported that the forum was a useful networking opportunity.



**Table 3** Summary of forum evaluation responses

	Strongly Disagree	Disagree	Neither	Agree	Strongly agree	N/A	Total responses	N agree	% agree
<b>Session1 The keynote addresses were</b>									
informative	1		1	19	39		60	58	97%
engaging	1			18	40		59	58	98%
<b>Session 2 The panel was</b>									
informative		2	9	37	12		60	49	82%
engaging		2	16	26	14		58	40	69%
<b>Session 3 The paper presentations were</b>									
informative		1	3	16	13	27	60	29	88%*
engaging			6	14	13	27	60	27	82%*
<b>Session 4 The symposium was</b>									
informative	1		6	31	21		59	52	88%
engaging	1		5	26	25		57	51	89%
<b>Session 5 Nine opportunities to collaborate was</b>									
informative		1	7	22	14	2	46	36	78%
engaging		1	7	22	14	1	45	36	80%
<b>This forum was a useful networking opportunity</b>									
	1		3	18	22		44	40	91%

\*of those who attended the paper presentations

In relation to identifying the best aspects of the national forum, participants commented on the opportunity to collaborate, network, share ideas, and have dialogue with like-minded people. New ideas were welcomed and the keynote addresses were well received. The venue and catering were praised. Suggestions for improvements were largely focused on improving the structure and facilitation of the symposia. Overall, the forum was seen as a positive experience and participants enjoyed the venue and catering. A good balance of presentations and interaction was also mentioned.

### *Fellowship website*

Since December 2009, all information pertaining to this fellowship has been available at a website (<<http://web.me.com/beverleyoliver1/benchmarking/About.html>>, shortened to <<http://tiny.cc/boliver>>). The website continues to be enhanced. At the time of this report's publication it had attracted more than 3000 unique visits from around the world (see Figure 12), particularly in those locations shown in Table 4:

Table 4 Locations attracting highest numbers of unique visits to the fellowship website

Australia (AU)	2,272
UK (GB)	347
US (US)	78
Malaysia (MY)	33
New Zealand (NZ)	33
Jordan (JO)	25
Finland (FI)	23





Clickable map of all visitors: [web.me.com/beverleyoliver1/benchmarking/About.html](http://web.me.com/beverleyoliver1/benchmarking/About.html)  
(dates and country totals below)

Navigation: [Map with smaller clustrs](#) | [Click on the map to zoom in](#) | [Maps Archive](#) | [Notes](#) | [Full Map Key](#)



Figure 12 ClustrMap showing location of unique visits to the fellowship website by December 2010

Since early 2010, colleagues have been invited to join the fellowship network at the website (and have their photo and contact details available), see Figure 13. To date, 148 colleagues from around the world have joined the network.

## Network

Colleagues are invited to join this Network to indicate their interest in topics associated with this Fellowship. This downloadable Excel spreadsheet contains the names, emails and institutions of over 100 colleagues within and beyond Australia who have agreed to have their contact details shared in this way. Feel free to contact them directly. You can join the network by emailing [b.oliver@curtin.edu.au](mailto:b.oliver@curtin.edu.au) (Download: [Fship network 261110.xlsx](#))

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Lynne Hunt, USQ	Amanda Pearce, VU	Sara Hammer, USQ	Sandra Jones, RMIT	Sue Jones, Curtin
				
Beatrice Tucker, Curtin	Sonia Ferns, Curtin	Veronica Goerke, Curtin	John Harper, Robert Gordon Aberdeen	Add YOU...email me

Figure 13 The network on the fellowship website



The fellowship materials were used to engage with colleagues from approximately 54 institutions within and beyond Australia and activities included seven invited addresses (four international) including four keynotes, six peer-reviewed conference papers, six conference presentations and five posters. Other peer-reviewed papers and an edited book are in preparation. The proposed book *Assurance of learning for graduate employability* will take a practical and proactive approach to quality assurance and enhancement of curriculum for graduate employability. It is intended as an e-book, an edited collection, with Australian, US and UK contributions underpinned by a theoretical base along with practical guidance and case studies in chapters of up to about 4000 words, to be submitted in 2011.

### **Publications and presentations during the fellowship**

#### *Refereed papers in conference proceedings*

- Oliver, B. (2010, September 27 - October 1). Benchmarking with a focus on Graduate Employability: Why, how and with what? Paper presented at the Australian Collaborative Education Network (ACEN) Conference, Perth, from [www.acen.com.au](http://www.acen.com.au)
- Whelan, B., Oliver, B., Hunt, L., Hammer, S., Jones, S., & Pearce, A. (2010, September 27 - October 1). Capturing stakeholder perceptions of graduate capability development: Challenges associated with Graduate Employability Indicators. Paper presented at the Australian Collaborative Education Network (ACEN) Conference, Perth, from [www.acen.com.au](http://www.acen.com.au)
- Kinsella, M. L. A., Lee, K., Oliver, B., Konsky, B. v., & Parsons, R. (2010, 5 - 7 July). Electronic Portfolio Use as an Assessment Medium: Pharmacy Students' Perceptions and Experiences. Paper presented at the Learning Forum London.
- Von Konsky, B. R., Oliver, B., Nikolettatos, P., & Wilkinson, H. (2010, 5 - 7 July). Showcase You on iTunes U: The iPortfolio enables student self-assessment of key capabilities and the public showcase of achievements. Paper presented at the Learning Forum London 2010 London
- Oliver, B., Ferns, S., Whelan, B., & Lilly, L. (2010, 2-3 July). Mapping the Curriculum for Quality Enhancement: Refining a Tool and Processes for the Purpose of Curriculum Renewal Paper presented at the Australian Universities Quality Forum 2010, Gold Coast, Queensland
- Oliver, B., Hunt, L., Jones, S., Pearce, A., Hammer, S., Jones, S., et al. (2010, 2-3 July). The Graduate Employability Indicators: capturing broader stakeholder perspectives on the achievement and importance of employability attributes. Paper presented at the Australian Universities Quality Forum 2010, Gold Coast, Queensland.

#### *Conference presentations, posters and abstracts*

- Oliver, B., Tucker, B., Ferns, S., Jones, S. and Whelan, B. (2010) Assurance of learning for graduate employability. Poster presented to the ALTC West Australian Networking and Dissemination Forum, University of Western Australia, 8 November, 2010.
- Oliver, B. (2010, 20-21 July). The role of ePortfolios in mapping, assessing and evaluating graduate capabilities. Paper presented at the Association or Authentic Experiential and Evidence-Based Learning Conference, Boston, from <http://www.aaeebl.org/page/AAEEBL+Conference+Full+Program>
- Oliver, B., von Konsky, B. R., Nikolettatos, P., Wilkinson, H., Ng, J., Quirke, T., et al. (2010, 20-21 July). iPortfolio, iTunes U, iPhone app: Capturing, tagging and sharing evidence of learning. Paper presented at the Association or Authentic Experiential and Evidence-Based Learning Conference, Boston, from <http://www.aaeebl.org/page/AAEEBL+Conference+Full+Program>
- Oliver, B. (2010). Benchmarking partnerships as communities of learning. Poster



- presented at the SEDA Spring Teaching Learning and Assessment Conference 2010: Communities of Learning from <http://www.seda.ac.uk>
- Oliver, B. (2010). Engaging graduates, employers and faculty in employability in the Web 2.0 world. Paper presented at the Second International Residential Seminar “Researching and Evaluating Personal Development Planning and e-Portfolio” from <http://www.recordingachievement.org/>
- Oliver, B. & Whelan, B. (2010, January). Facilitating National Benchmarking of Achievement of graduate attributes and Employability Skills at Course Level. Paper presented at the Teaching and Learning Forum 2010, Perth, Western Australia

*Invited presentations:*

- Invited Plenary address, Assurance of learning for capable graduates: the potential role of e-Portfolios in program curriculum enhancement” “PDP - in a leaner meaner world”, Tenth Annual Residential Seminar of the Centre for Recording Achievement, 2223 November, 2010, University of Birmingham, UK (virtual presentation).
- Keynote speaker, National Forum on Graduate Capability Development: Mapping, Assessing and Evaluating Achievement for Graduate Employability, 5 November 2010, Melbourne
- Keynote speaker, Engaging ePortfolios for graduate employability, ePortfolios Australia Conference, 3-4 November 2010, Melbourne
- Invited Facilitator, Facilitated Conversation: graduate attributes and Employability Skills: Beyond the learning environment and the technology, ePortfolios Australia Conference, 3-4 November 2010, Melbourne
- Invited Facilitator, Roundtable on Research into Work-Integrated Learning, Australian Collaborative Education Network (ACEN) Conference, Sept 27, 2010, Murdoch University, Perth
- Panel Chair, Embedding WIL in the curriculum and fostering employability skills in Graduates, Australian Collaborative Education Network (ACEN) Conference, Sept 27-Oct 1, 2010, Perth
- Keynote Speaker: The Changing Face of Quality in Higher Education: Assurance of learning for capable graduates, Educational Research Group of Adelaide Annual Conference, September 23-24, 2010.
- Workshop facilitator and Keynote Speaker, Outcomes-based curriculum design and implementation, Philadelphia University, Jordan, May 17-18, 2010
- Invited presentation: Closing the loop: Mapping, Assessing and Evaluating graduate attributes, Steering Committee for the Enhancement Theme Graduates for the 21st Century, Quality Assurance Agency, Scotland, 29 April 2010
- Invited presentation: Engaging 21<sup>st</sup> Century learners: How? A provocation, Principal and Senior Management, Robert Gordon University, Aberdeen, Scotland 5 May, 2010

**Products**

The fellowship website <<http://tiny.cc/boliver>> is the download site for:

- Capability proforma
- Curtin Curriculum Mapping (CCMap)Tool (Excel worksheet) available by email request <[b.oliver@curtin.edu.au](mailto:b.oliver@curtin.edu.au)>; CCMap User Guide
- Graduate Employability Indicators User Guide (use of the tool is available available by email on request <[b.oliver@curtin.edu.au](mailto:b.oliver@curtin.edu.au)>)
- Course Portfolio
- Benchmarking with a focus on Graduate Employability User Guide; Information Checklist and Benchmarking Portfolio.



### ***Future and ongoing collaborations***

Ongoing opportunities for collaboration are available through the website, particularly the fellowship network, the collaborations blog, and the ongoing synergies through the ALTC project 'Building course team capacity for graduate employability'. Colleagues will continue to be encouraged to submit scholarly papers to the *Journal of Teaching and Learning for Graduate Employability* <[http://otl.curtin.edu.au/scholarship\\_teaching\\_learning/jtlge.cfm](http://otl.curtin.edu.au/scholarship_teaching_learning/jtlge.cfm)>.



## Fellowship evaluation

Evaluation has been ongoing throughout the fellowship. Professor Denise Chalmers, The University of Western Australia, is evaluator for this fellowship and also for the ALTC project 'Building course team capacity for graduate employability', led by the fellow. This has proven to be a helpful strategy because lessons learnt in one area inform the other. Evaluation has taken the form of regular monthly meetings throughout the fellowship, and Professor Chalmers has elected on several occasions to attend project team meetings as well. She has acted as a critical friend and sounding board for both the fellowship and the project, and has made helpful suggestions that have been built in along the journey. Professor Chalmers also volunteered to act as an observer at the benchmarking event in Melbourne, as well as the national forum. She has, during the fellowship, continuously suggested strategies, literature, and facilitated critical personal and institutional contacts and connections that have provided enhancements to the program and widened its reach.



## Conclusion

This fellowship aimed to engage course leaders from universities across Australia to engage in benchmarking partnerships with a focus on graduate employability, and to disseminate curriculum tools which would enable that focus: a curriculum mapping tool; graduate and employer surveys; and a needs analysis which assembled course quality indicators.

### What's been achieved?

During the fellowship journey, the original aims developed into a more comprehensive approach presented within a framework. There has been an extensive study of the literature associated with graduate employability and how it can be assured through the achievement of learning outcomes (and the various ways in which those outcomes are described: eg attributes, qualities, capabilities and competencies). That literature, as well as engagement with colleagues around the world, has informed the iterative development of the fellowship framework that suggests that “the capabilities that count for early professional success” are most likely to be effectively achieved and assured through a 360-degree evidence-based approach to curriculum enhancement. It must be emphasised that even though many of the tools and processes disseminated in this fellowship focus on listed capabilities, they must be planned for, developed, assessed and evaluated in a ‘joined up’ and integrated way:

Reducing learning to what can easily be measured...diverts external audiences' focus away from the authentic work that students produce along the continuum of their learning as well as at the end of their careers. [A range of assessment tasks] demonstrates not only how students apply their learning, but also how they integrate knowledge, abilities, habits of mind, ways of thinking and problem solving, ways of behaving or responding ... Deconstructing learning into skill sets does not realistically represent how students actually think, act, solve problems, engage questions, take risks, propose new ways of looking at a problem, create an original work, or design research (Maki, 2009).

The framework highlights the need to incorporate a range of tools and processes: clear articulation of the required standards of capability achievement, and how those capabilities are developed, supported by WIL experiences, and monitored through planned assessments throughout the curriculum. Analysing portfolios of course-related information (eg summative assessment records and a range of quality indicators can provide key evidence to justify curriculum review. However, perhaps an under-rated source of evidence is student portfolios: self- and peer-assessment provides another important view of progress on the journey towards graduate employability, as does developmental and reflective progress over time. Conversations with “fellow travellers further down the road” (Scott, Coates, & Anderson, 2008) can assist course leaders to benchmark and collaborate to improve practice across the sector. The process trialled in this fellowship highlights the potential for such an approach, and suggests how this might be embedded into existing networks in a sustainable way through having a ‘broker’ to assist and coordinate benchmarking partnerships.

Over the course of the fellowship, over 3000 colleagues have engaged in activities related to these matters, and many have accessed online information and downloadable tools such as the Capabilities Proforma, Curriculum Mapping Tool, Graduate Employability, iPortfolio, Needs Analysis (renamed Course Portfolio), and Benchmarking documentation. After due consultation, these refined tools and processes will be implemented at Curtin; anecdotal evidence suggests that they will



inform adoption at many other higher education institutions. Scholarly outcomes include six peer-reviewed conference papers, six conference presentations and five posters. Other peer-reviewed papers and an edited book are in preparation.

### **What remains to be done?**

The initial scan undertaken for this fellowship suggested there was intense activity in relation to curriculum mapping, and less so in graduate and employer feedback and benchmarking. The key to greater effectiveness is in approaching these activities in a 'joined up' and integrated way: all elements need to inform the other aspects of the framework.

Collegial conversations about assuring achievement of capabilities inevitably turn to standards: what are the standards; who decides them, and where are they articulated? How might students find them? The ALTC Learning and Teaching Standards Project has initiated this conversation at a national level and threshold learning outcomes delineate the minimal capabilities for graduation. A next step might be the creation of holistic rubrics – descriptors of hallmark performance levels aligned with those minimal capabilities for graduation – that guide student, peer and teacher approaches to formative and summative assessment for professional and safe practice.

Such rubrics would need to be accompanied by methods of collecting and analysing summative and formative assessment evidence that more accurately provides course portfolios of evidence of achievement and areas for improvement. Pressured teaching academics need access to such evidence to be able to make curriculum changes promptly: it can only be available if information systems within and even beyond institutions are integrated, accessible and reliable. This greater commonality would enable better and more accurate benchmarking, perhaps brokered through a discipline or sector-wide body.

Perhaps even more importantly, students need ready access to this type of learning tool that enables them to access information focal to their employability aspirations (as well as store evidence of their achievements). Learning management systems such as Blackboard often focus on units rather than courses, and so do not necessarily currently enable this access. E-portfolios, growing in popularity in higher education, could be enhanced to become course-wide and 'life-wide' portals enabling not only storage of evidence but access to 'live information' such as descriptions of the capabilities and levels of performance required for success (rubrics); curriculum maps showing where those capabilities are developed and assessed throughout their course; and graduate and employer feedback about "the capabilities that count for early professional success". Such portals could then become key drivers of self-directed learning for enhanced graduate employability.

None of the above ideas can be realised unless the academy has the capacity to implement them. Building teaching staff confidence and skills in embedding and evidencing graduate capabilities and enhancing integration of sessional staff who are often actively engaged with industry are likely to advance practice. The vast majority of colleagues who engaged with this fellowship were convinced of the moral purpose of graduate employability – that it is our obligation, not just aspiration, to manage and enhance curricula and student experiences which enable graduates to be "successful in their chosen occupations to the benefit of themselves, the workforce, the community and the economy" (Yorke, 2006). It is hoped that engagement initiated through this fellowship will lead to collaborations that advance our collective efforts in this field.



## Appendix A



### Benchmarking Partnerships for Graduate Employability

#### Evaluation (Course leaders)

Write as little or as much as you wish in response to each question. Use the back of this page if you wish.



Name	Optional
Course area (eg Pharmacy)	Optional
School, Faculty, University	Optional
<b>Before this event</b>	
1. Did anyone assist you with the preparation for this event, and if so, was this helpful or sufficient?	
2. How might the preparation phase be improved?	
<b>During today's event</b>	
3. How many partners did you have meaningful engagement with during today's event?	
4. In your view, how much time should be allocated to engage with a benchmarking partner for an exercise such as this one?	
5. Was the Benchmarking Summary a helpful guide? Should material be added or deleted from it in future?	
6. Did you use the <a href="#">Graduate Employability Indicators</a> ? If so, were they helpful, and how could they be improved?	
7. In your experience, what were the best aspects of this process?	
8. How could this process be improved?	





9. What were you hoping to achieve by participating in this process, and were your expectations met?	
--	--

<b>Beyond today's event</b>	
10. Are there any issues that you believe need to be addressed if benchmarking is to be effective in improving practice in the future?	
11. Do you think you are likely to engage in any collaborations with the partners you met today in the future? If so, how?	
12. How do you plan to use the outcomes of this event to improve your course and ultimately graduate employability?	
13. Would you like to make any other comments?	

Thank you for your feedback



## Appendix B



### Benchmarking Partnerships for Graduate Employability

#### Evaluation (Observers)

Write as little or as much as you wish in response to each question. Use the back of this page if you wish.



Name	Optional
School, Faculty, University	Optional
1. How many partners did you observe during today's event?	
2. From your observation, did the partners appear to engage?	
3. From your observation, did the partners have sufficient time in each round?	
4. In your view, how much time should be allocated to engage with a benchmarking partner for an exercise such as this one?	
5. Did the Benchmarking Summary appear to be a helpful guide? Should material be added or deleted from it in future?	
6. From your observation, what were the best aspects of this process?	
7. How could this process be improved?	
8. Would you like to make any other comments?	

Thank you for your feedback



## References

- Alstete, J. W. (1996). *Benchmarking in higher education: Adapting best practices to improve quality*. Washington D.C.: The George Washington University.
- Australian Council for Educational Research. (2008). *Attracting, Engaging and Retaining: New Conversations About Learning--Australasian Student Engagement Report*. Melbourne: ACER from [http://www.acer.edu.au/documents/AUSSE\\_2007Report.pdf](http://www.acer.edu.au/documents/AUSSE_2007Report.pdf)
- Australian Flexible Learning Network. (2009). *The Impact of E-learning on Employability Skills Development*. Australia: Department of Education Employment and Workplace Relations. (C. o. Australia)
- Australian Learning and Teaching Council. (2009). *Project Outline: Learning and Teaching Academic Standards Project*. Sydney from <http://www.altc.edu.au>
- Australian Qualification Framework Council. (2009a). *Strengthening the AQF: A Proposal*. Canberra: Ministerial Council for Tertiary Education and Employment from <http://www.aqf.edu.au>
- Australian Qualification Framework Council. (2009b). *Strengthening the AQF: An Architecture for Australia's Qualification*. Canberra: Ministerial Council for Tertiary Education and Employment from <http://www.aqf.edu.au>
- Australian Teaching and Learning Council. (2010). *Learning and Teaching Academic Standards Progress Report*. Sydney: ALTC from [http://www.altc.edu.au/system/files/LTAS\\_Progress\\_Report\\_April\\_2010.pdf](http://www.altc.edu.au/system/files/LTAS_Progress_Report_April_2010.pdf)
- Barrie, S. (2004). A research-based approach to generic graduate attributes policy. *Higher Education Research & Development*, 23(3), 261-275.
- Barrie, S., Hughes, C., & Smith, C. (2009). *The national graduate attributes project: integration and assessment of graduate attributes in curriculum*. Sydney: ALTC
- Bell, J. (1999). Benchmarking: A Pedagogically Valuable Process? *Web Journal of Current Legal Issues*(2)
- Benner, P. (1984). *From novice to expert: Excellence and power in clinical nursing practice*. Menlo Park: Addison-Wesley.
- Boud, D. (2010). *Assessment 2020: Seven propositions for assessment reform in higher education*. Sydney: Australian Learning and Teaching Council.
- Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). *Review of Australian Higher Education: Final Report*. Canberra: Department of Education, Employment and Workplace Relations from [www.deewr.gov.au/he\\_review\\_finalreport](http://www.deewr.gov.au/he_review_finalreport)
- Brown, S. (1999). How can benchmarking work to best effect in higher education? In H. Smith, M. Armstrong & S. Brown (Eds.), *Benchmarking and threshold standards in Higher Education* (pp. 275-280). London: Kogan Page.
- Business Industry and Higher Education Collaboration Council. (2007). *Graduate employability skills*. Melbourne: Business, Industry and Higher Education Collaboration Council from <http://www.dest.gov.au/highered/bihecc>
- Chen, H. L., & Light, T. P. (2010). *Electronic Portfolios and Student Success: Effectiveness, Efficiency, and Learning*. Washington DC: Association of American Colleges and Universities.
- Clark, J. E., & Eynon, B. (2009). E-portfolios at 2.0- Surveying the Field. *Peer Review*, Winter 2009, 18-23.
- Coates, H., & Edwards, D. (2009). *The 2008 Graduate Pathways Survey: Graduates' education and employment outcomes five years after completion of a bachelor degree at an Australian university: Report to the Department of Education, Employment and Workplace Relations (DEEWR)*. Melbourne: Australian Council for Educational Research from [http://www.acer.edu.au/documents/GPS\\_FullReport.pdf](http://www.acer.edu.au/documents/GPS_FullReport.pdf)



- Davenport, N. C., Spath, M. L., & Blauvelt, M. J. (2009). A Step-by-Step Approach to Curriculum Review. *Nurse Educator*, 34(4), 181-185.
- Department of Education Employment and Workplace Relations. (2009). 2009 Learning & Teaching Performance Fund from [http://www.dest.gov.au/sectors/higher\\_education/policy\\_issues\\_reviews/key\\_issues/learning\\_teaching/ltpf/](http://www.dest.gov.au/sectors/higher_education/policy_issues_reviews/key_issues/learning_teaching/ltpf/)
- Department of Education Employment and Workplace Relations. (2010a). *Mission based compacts explanatory paper*. Canberra: DEEWR from <http://www.deewr.gov.au/HigherEducation/Policy/Documents/CompactsExplanatoryPaper.pdf>
- Department of Education Employment and Workplace Relations. (2010b). Tertiary Education Standards and Quality Agency. Retrieved 1 November, 2010 from <http://www.deewr.gov.au/HigherEducation/Policy/teqsa/Pages/Overview.aspx>
- Department of Education Science and Training. (2002). *Employability skills for the future: A report by the Australian Chamber of Commerce and Industry and the Business Council of Australia for the Department of Education, Science and Training*. Canberra from [http://www.dest.gov.au/NR/rdonlyres/4E332FD9-B268-443D-866C-621D02265C3A/2212/final\\_report.pdf](http://www.dest.gov.au/NR/rdonlyres/4E332FD9-B268-443D-866C-621D02265C3A/2212/final_report.pdf)
- Department of Employment Education Training and Youth Affairs. (1998). *Research on employer satisfaction with graduate skills*. Canberra: Evaluations and Investigations Programme, DEETYA
- Dreyfus, S. E. (2004). The Five-Stage Model of Adult Skill Acquisition. *Bulletin of Science Technology Society*, 24(3), 177-181.
- Epper, R. M. (1999). Applying Benchmarking to Higher Education: Some Lessons From Experience. *Change*, 31(6), 24-31.
- Ewell, P. (2004). *General education and the assessment reform agenda*. Washington D.C.: Association of American Colleges and Universities.
- Garlick, S., & Pryor, G. (2004). *Benchmarking the university: Learning about improvement*. Canberra: Department of Education, Science and Training (DEST). (C. o. Australia)
- Gillard, J. (2010, 3rd March 2010). *Address to the Universities Australia Annual Higher Education Conference*. Paper presented at the Universities Australia Annual Higher Education Conference, Canberra from [http://www.deewr.gov.au/Ministers/Gillard/Media/Speeches/Pages/Article\\_100303\\_102842.aspx](http://www.deewr.gov.au/Ministers/Gillard/Media/Speeches/Pages/Article_100303_102842.aspx)
- Goleman, D. (1998). *Working with emotional intelligence*. London: Bloomsbury.
- Graduate Careers Australia. (2008). *University and Beyond 2007: A Snapshot of Things to Come* (Publication. Retrieved 1 June, 2008: <http://www.graduatecareers.com.au/content/view/full/3207>
- Hager, P. (2006). Nature and development of generic attributes. In P. J. Hager & S. Holland (Eds.), *Graduate attributes, learning and employability* (pp. 17-47). Dordrecht: Springer.
- Hager, P. J., & Holland, S. (2006). *Graduate attributes, learning and employability*. Dordrecht: Springer.
- Hallam, G., Harper, W., Hauville, K., Creagh, T., & McAllister, L. (2009). *ePortfolio use by University students in Australia: Developing a sustainable community of practice*: Australian ePortfolio Project: Queensland University of Technology
- Hallam, G., Harper, W., McAllister, L., Hauville, K., & Creagh, T. (2010). *Australian ePortfolio Project: ePortfolio use by university students in Australia: Informing excellence in policy and practice, Supplementary report: October 2010*. Sydney: Australian Teaching and Learning Council from <http://www.eportfolioppractice.qut.edu.au/>
- Hallam, G., Harper, W., McCowan, C., Hauville, K., McAllister, L., Creagh, T., et al. (2008). *Australian ePortfolio Project: ePortfolio use by university students in*



- Australia: Informing excellence in policy and practice*. Brisbane: Australian Learning and Teaching Council,
- Halstead, A., & Wheeler, A. (2009). *Enhancing reflective professional practice through the use of an ePortfolio: A UK case study*. Paper presented at the Ascilite 2009, Auckland, New Zealand
- Hart Research Associates. (2010). *Raising The Bar: Employers' Views On College Learning In The Wake Of The Economic Downturn*. Washington DC: The Association of American Colleges And Universities from [http://www.aacu.org/leap/documents/2009\\_EmployerSurvey.pdf](http://www.aacu.org/leap/documents/2009_EmployerSurvey.pdf)
- Harvey, L. (2005). Embedding and integrating employability. *New Directions for Institutional Research*, 2005(128), 13-28. from <http://dx.doi.org/10.1002/ir.160>
- Harvey, L. (n.d.). On employability. from <http://www.heacademy.ac.uk/resources>
- Harvey, L., Moon, S., & Geall, V. (1997). *Graduates' work: organisational change and student attributes*. Birmingham: Centre for Research into Quality, University of Birmingham
- Henderson-Smart, C., Winning, T., Gerzina, T., King, S., & Hyde, S. (2006). *Benchmarking learning and teaching: developing a method*. Sydney
- Herrington, J., Oliver, R., & Reeves, T. C. (2003). Patterns of engagement in authentic online learning environments. *Australian Journal of Educational Technology*, 19(1), 59-71. from <http://www.ascilite.org.au/ajet/ajet19/herrington.html>
- Jackson, N. (2001). *Personal development planning: what does it mean?* Higher Education Academy from <http://www.heacademy.ac.uk/ourwork/teachingandlearning>
- Jackson, N., & D'Andrea, V. (2000). Benchmarking the outcomes of learning. In N. Jackson & H. Lund (Eds.), *Benchmarking for higher education* (pp. 85-103). Buckingham: The Society for Research into Higher Education and Open University Press.
- JISC InfoNet. (2009). e-Portfolios Infokit. Retrieved 1 November, 2010 from <http://www.jiscinfonet.ac.uk/e-portfolios>
- Joint Information Systems Committee. (2006a). *e-Portfolios: What institutions really need to know*. UK: JISC
- Joint Information Systems Committee. (2006b). *e-Portfolios: What institutions really need to know. Briefing Paper*. Bristol: JISC from <http://www.jisc.ac.uk/media/documents/publications/eportfoliobpv1.pdf>
- Joint Information Systems Committee. (2008). *Effective Practice with e-Portfolios: Supporting 21st century learning*. Bristol: JISC from <http://www.jisc.ac.uk/whatwedo/programmes/elearning/eportfolios/effectivepracticeportfolios>
- Jones, S., & Oliver, B. (2008, July). *360-degree Feedback on Courses: Needs Analysis for Comprehensive Course Review* Paper presented at the Australian Universities Quality Forum 2008, Canberra from <http://www.auqa.edu.au/auqf/2008/index.shtml>
- Kelley, K. A., McAuley, J. W., Wallace, L. J., & Frank, S. G. (2008). Curricular Mapping: Process and Product. *American Journal of Pharmaceutical Education*, 72(5) from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2630125/pdf/ajpe100.pdf>
- Knight, P., & Yorke, M. (2004). *Learning, Curriculum and Employability in Higher Education*. London: Routledge Farmer.
- Knight, P., & Yorke, M. (2006). *Employability: Judging and communicating achievements*: Higher Education Academy.
- Kuh, G. D. (2001). *The National Survey of Student Engagement: Conceptual framework and overview of psychometric properties*. Bloomington, IN: Indiana University Center for Postsecondary Research.



- Little, B. (2006). Employability and work-based learning: Higher Education Academy.
- Maki, P. L. (2009). Moving beyond a national habit in the call for accountability. *Peer Review: Emerging trends and key debates in undergraduate education*, 11(1), 13-17.
- Mason, G., Williams, G., & Cranmer, S. (2006). Employability Skills Initiatives in Higher Education: What Effects Do They Have On Graduate Labour Market Outcomes? [Electronic Version]. Retrieved 19 May 2008, from [http://www.niesr.ac.uk/pdf/061006\\_91251.pdf](http://www.niesr.ac.uk/pdf/061006_91251.pdf)
- McInnis, C., Griffin, P., James, R., & Coates, H. (2001). *Development of the Course Experience Questionnaire (CEQ): Evaluations and Investigations Programme*, Higher Education Division, Department of Education, Training and Youth Affairs from [http://www.detya.gov.au/highered/eippubs/eip01\\_1/01\\_1.pdf](http://www.detya.gov.au/highered/eippubs/eip01_1/01_1.pdf)
- McKinnon, K. R., Walker, S. H., & Davis, D. (2000). *Benchmarking: A manual for Australian Universities*. Canberra: Department of Education, Training and Youth Affairs (DETYA). (C. o. Australia)
- McMullan, M., Endacott, R., Gray, M. A., Jasper, M., Miller, C. M. L., Scholes, J., et al. (2003). Portfolios and assessment of competence: a review of the literature. *Journal of Advanced Nursing*, 41(3), 283-294.
- Miller, R. (2007). *Assessment in Cycles of Improvement: Faculty Designs for Essential Learning Outcomes*. Washington DC: Association of American Colleges and Universities.
- Miller, R., & Leskes, A. (2005). *Levels of Assessment: From the Student to the Institution*. Washington DC: Association of American Colleges and Universities
- Ministerial Council on Education Employment Training and Youth Affairs. (2009). *Australian Blueprint for Career Development*. Canberra: Commonwealth of Australia. (Miles Morgan Australia)
- Moreland, N. (2006). Entrepreneurship and higher education: An employability perspective. Learning and Employability Series: ESECT York.
- Oliver, B. (2008, July). *Graduate Employability as a Standard of Success in Teaching and Learning*. Paper presented at the Australian Universities Quality Forum 2008, Canberra from <http://www.auga.edu.au/auqf/2008/index.shtml>
- Oliver, B., Jones, S., & Ferns, S. (2008, January). *Leading curriculum reform: lessons learnt and challenges ahead*. Paper presented at the Teaching and Learning Forum 2008, Perth, Western Australia
- Oliver, B., Jones, S., Tucker, B., & Ferns, S. (2007). *Are our students work-ready?: Graduate and employer feedback for comprehensive course review*. Paper presented at the Evaluations and Assessment Conference, Brisbane
- Oliver, B., & Nikolettatos, P. (2009). *Building engaging physical and virtual learning spaces: A case study of a collaborative approach*. Paper presented at the Same places, different spaces Ascilite Auckland 2009. from <http://www.ascilite.org.au/conferences/auckland09/procs/oliver.pdf>
- Oliver, B., & Tucker, B. (2004, 22-23 November). *Curriculum mapping of assessment tasks within an outcomes-focused framework: A school-based professional development approach*. Paper presented at the Evaluations and Assessment Conference, Melbourne
- Oliver, B., Tucker, B., Gupta, R., & Yeo, S. (2008). eVALUate: Developing and validating an instrument which gathers students' perceptions of what helped and hindered their achievement of learning outcomes. *Assessment and Evaluation in Higher Education*, 6(6), 619-630.
- Oliver, B., Tucker, B., & Pegden, J.-A. (2006). *Analysing qualitative feedback using CEQuery and SPSS Text*. Paper presented at the Evaluation Forum 2006, Perth, Western Australia from <http://lsn.curtin.edu.au/evaluationforum06/program.html>



- Oliver, B., von Konsky, B., Jones, S., Ferns S., Tucker, B. (2009). Curtin's iPortfolio: facilitating student achievement of graduate attributes within and beyond the formal curriculum *Learning Communities: International Journal of Learning in Social Contexts*(2)
- Oliver, B., & Whelan, B. (2010). *Facilitating National Benchmarking of achievement of graduate attributes and employability skills at course level*. Paper presented at the Teaching and Learning Forum- Educating for Sustainability. from <http://otl.curtin.edu.au/tlf/tlf2010/abstracts.html>
- Patrick, C.-j., Peach, D., Pocknee, C., Webb, F., Fletcher, M., & Pretto, G. (2008). *The Work-Integrated Learning Project: A national scoping study. Final report*. Brisbane: Australian Learning and Teaching Council from [www.altc.edu.au](http://www.altc.edu.au) and [www.acen.edu.au](http://www.acen.edu.au)
- Porter, A. C. (2004). Curriculum Assessment. In G. C. Judith L. Green, Patricia B. Elmore, (Ed.), *Handbook of Complementary Methods in Education Research* (pp. 141-160). Washington D.C.: American Educational Research Association.
- Precision Consulting. (2007). *Graduate employability skills*. Melbourne: Business, Industry and Higher Education Collaboration Council from <http://www.dest.gov.au/highered/bihecc>
- Quality Assurance Agency. (n.d.). Subject benchmark statements. Retrieved 10 May, 2010 from <http://www.gaa.ac.uk/>
- Radloff, A., de la Harpe, B., Scoufis, M., Dalton, H., Thomas, J., Lawson, A., et al. (2009). *The B Factor Project: Understanding academic staff beliefs about graduate attributes*. Melbourne: ALTC
- Ramsden, P., Margetson, D., Martin, E., & Clarke, S. (1995). *Recognising and rewarding good teaching in Australian higher education: A project commissioned by the Committee for the Advancement of University Teaching-Final Report*. Griffith Institute of Higher Education: Griffith University from <http://www.autc.gov.au/caut/rrgt/titlepag.html>
- Rhodes, T. L. (Ed.). (2010). *Assessing outcomes and improving achievement: Tips and tools for using rubrics*. Washington D.C.: Association of American Colleges and Universities.
- Sadler, D. R. (2009). Transforming Holistic Assessment and Grading into a Vehicle for Complex Learning. In G. Joughin (Ed.), *Assessment, Learning and Judgement in Higher Education*: Springer.
- Scott, G. (2005). *Accessing the student voice: Using CEQuery to identify what retains students and promotes engagement in productive learning in Australian higher education*: HEIP from [http://www.dest.gov.au/sectors/higher\\_education/publications\\_resources/profiles/access\\_student\\_voice.htm](http://www.dest.gov.au/sectors/higher_education/publications_resources/profiles/access_student_voice.htm)
- Scott, G., Coates, H., & Anderson, M. (2008). *Learning Leaders in Times of Change: Academic Leadership Capabilities for Australian Higher Education*: Australian Learning and Teaching Council from [http://www.altc.edu.au/carrick/webdav/site/carricksite/users/siteadmin/public/g\\_rants\\_leadership\\_uws\\_acer\\_finalreport\\_june08.pdf](http://www.altc.edu.au/carrick/webdav/site/carricksite/users/siteadmin/public/g_rants_leadership_uws_acer_finalreport_june08.pdf)
- Stefani, L., Mason, R., & Pegler, C. (2007). *The educational potential of e-portfolios : supporting personal development and reflective learning*. London: Routledge.
- Stella, A., & Woodhouse, D. (2007). *Benchmarking in Australian Higher Education: A Thematic Analysis of AUQA Audit Reports*. Melbourne
- Stephenson, J. (1998). The concept of capability and its importance in higher education. In J. Stephenson & M. Yorke (Eds.), *Capability and quality in higher education* (pp. 1-13). London: Kogan Page.
- Strivens, J. (2007). *A survey of e-pdp and e-portfolio practice in UK Higher Education*. UK: Higher Education Academy



- Sumsion, J., & Goodfellow, J. (2004). Identifying generic skills through curriculum mapping: a critical evaluation. *Higher Education Research and Development*, 23(3), 329-346.
- Uchiyama, K. P., & Radin, J. L. (2009). Curriculum Mapping in Higher Education: A Vehicle for Collaboration. *Innovative Higher Education*, 33, 271-280.
- & R.
- Wagenaar (Eds.), *Universities' contribution to the Bologna Process* (2nd ed., pp. 25-54). Spain: Tuning Project.
- Weeks, P. (2000). Benchmarking in Higher Education: An Australian Case Study. *Innovations in Education and Teaching International*, 37(1), 59-67.
- Wolf, P. (2007). A model for facilitating curriculum development in higher education: A faculty-driven, data-informed, and educational developer-supported approach. *New Directions for Teaching and Learning*, 112(Winter)
- Woodhouse, D. (2003). Quality Improvement through Quality Audit *Quality in Higher Education*, 9(2), 133-139.
- Yorke, M. (1998). Assessing capability. In J. Stephenson & M. Yorke (Eds.), *Capability and Quality in Higher Education* (pp. 174-191). London: Kogan Page.
- Yorke, M. (2000). Benchmarking the student experience. In N. Jackson & H. Lund (Eds.), *Benchmarking for higher education* (pp. 67-84). Buckingham: The Society for Research into Higher Education and Open University Press.
- Yorke, M. (2004). Pedagogy for employability. *The Higher Education Academy, Learning and Employability Series One*
- Yorke, M. (2006). Employability in higher education: what it is - what it is not *Learning and Employability Series*: Higher Education Academy.
- Yorke, M., & Knight, P. T. (2006). Embedding employability into the curriculum: Higher Education Academy.







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