

## Practical typology of authentic work-integrated learning activities and assessments

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Increased graduate employment is an aspiration of Australian universities who are adopting new and innovative approaches to ensure that all students have opportunities to develop the employability skills much sought after by employers. Placements have been a traditional means for developing such skills but because these are not available to all students other non-placement activities such as industry and community projects, and simulated learning environments have become alternative ways of assisting students become job-ready. These authentic work-related activities enable students to apply and practice disciplinary learning in workplace contexts as well as develop graduate capabilities. A study at an Australian University investigated 1,500 assessments from 40 courses across four Faculties to determine the nature and extent to which authentic assessments were being embedded in courses. This paper presents the development of an authentic assessment framework and typology that was employed to conduct the action-in-research investigation and to illustrate the investigative outcome, as well as holding prospects as a curriculum development tool and student engagement and development tool. (*Asia-Pacific Journal of Cooperative Education, Special Issue, 2017, 18(2), 153-165*)

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Increased graduate employment is an aspiration of all Australian universities as well as their graduates. The *2015 Australian Graduate Survey* (Graduate Careers Australia, 2015) reported that nearly 69% of Australian graduates were in full-time employment within four months of completing their degrees. A further 20% were working in part-time or casual positions while continuing to seek full-time employment, and the remaining 11%, who were not working, were still seeking full-time employment at the time of the survey. These full-time employment rates have dropped by 8% since 2010 and by nearly 13% since 2005. However, the news is more encouraging on a mid- to long-term basis, when the three years post-graduation rate for 2010 graduates' full-time employment was 89%.

The aim of increasing employment prospects for graduates has led universities to seek new and increased ways to equip students with the employability skills much sought after by employers. For the past decade-and-a-half, employers have been calling for increased job-ready skills among new university graduates, their prospective employees, to better meet the changing needs of their industry, sector, or profession. Industry generally, views graduates as being technically competent in their specialist fields, but less so in workplace capabilities such as teamwork and interpersonal communication (Brimble et al., 2012; McLeland & Keating, 2008; Patrick et al., 2008). In 2001, the former Australian Department of Education, Science and Training [DEST] and the National Skills Training Authority funded the Australian Chamber of Commerce and Industry [ACCI] and the Business Council of Australia [BCA] to conduct research into the generic skills that employers regarded as high priority for recent graduates. They evaluated whether or not the seven Mayer Key Competencies developed in 1992 needed revision. The findings by the ACCI/BCA (2002)

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recommended the adoption of the following graduate attributes: communication, teamwork, problem-solving, initiative and enterprise, planning and organizing, self-management, learning, and technological literacy. Guided by the DEST report most, if not all, universities began to formally adopt the integration of a customized group of generic transferable skills into their curricula (although this has been the practice in vocational education since the early 1990s). The University, where this study took place, for example, focused on fostering the following generic capabilities: disciplinary knowledge; communication; digital literacy; critical thinking; problem-solving; teamwork; self-management and global citizenship.

In recent times, however, strong indications show that graduate capabilities like these will no longer be sufficient to prepare graduates for the rapidly and ever-changing labor market. Recent reports of market and workforce trends such as the Committee for Economic Development of Australia's (2015) and the UK Commission for Employment and Skills (2014) have indicated that jobs of the future are changing more rapidly and unpredictably than they have in the past due to technological changes and disruption. Oliver (2015) explores these new patterns of work and deliberates on what this might portend for universities. For instance, Oliver (2015) adapted the employability definition by Yorke and Knight (2006) by proposing that employability now means:

that students and graduates can discern, acquire, adapt and continually enhance the skills, understandings and personal attributes that make them more likely to find and create meaningful paid and unpaid work that benefits themselves, the workforce, the community and the economy (Oliver, 2015 p. 63).

This further implies a pressing need for universities to do more, including adopting new and innovative approaches. Many universities already have a strong foundation of embedding graduate capabilities into the curriculum to enable students to become more work-ready or career-progressive, and some are poised to become even more inventive. A major approach for increasing students' employability capabilities has been through work-integrated learning (WIL), a pedagogy that essentially "integrate[s] theory with practice of work within a purposely designed curriculum" (Patrick, et al, 2008, p. iv). The increasingly robust practice and scholarship in this field demonstrates the wide range of WIL approaches that have been adopted (Billett, 2000; Coll & Chapman, 2000; Yorke, 2006; Eraut & Hirsch, 2007; McLennan & Keating, 2008; Orrell, 2011).

Predominant among existing approaches are placements of one type or other including internships, practicums, clinical rotations, industry-based learning (IBL), and cooperative education (McLennan & Keating, 2008; Smith, Ferns, & Russell, 2014; Australian Collaborative Education Network, 2015). Despite the value of these to both employers and students, the percentage of students afforded the opportunity of a placement remains relatively low. Some disciplines have a strong tradition of student placements such as medicine, law, and education while others offer fewer or no such opportunities (Australian Council for Educational Research, 2009; Hains-Wesson & Campbell, 2014; Office of Chief Scientist, 2015). For this reason, as well as the increasing competitiveness amongst existing placement seekers, newer forms of WIL are gaining appeal. Non-placement WIL such as industry and community projects, problem-based learning, simulated and/or online workplace environments and a host of other authentic work-related assessments that are closely linked and mirror the world of work, are at the forefront of this thinking and practice (Hains-Wesson, 2012; Hains-Wesson & Campbell, 2014).

Placements are a natural home for authentic assessments but these types of assessments can also take place in the classroom or in activities that are linked to, but not necessarily located in the workplace. Herrington, Oliver, and Reeves (2003) posit that offering students “complex tasks to complete over a period of time with opportunities for reflection and collaboration” (pp. 62-63) create authentic, real world relevance and can be offered outside of placements. The numerous types of non-placement WIL that are emerging are often referred to as ‘authentic assessments’ because they meet the critical criteria of offering students the opportunity to apply their disciplinary learning to work-based and professional scenarios. However, labelling an assessment as ‘authentic’ has not been without its critics. Some educators take the view that because the word authentic means ‘real’ any well-constructed assessment that assesses what it purports to assess is therefore *real*. The predominant view however, is that authentic assessments are those that reflect real world tasks. Early proponents of authentic assessments, such as Wiggins (1990) held that traditional assessments such as standardized tests, often multiple choice, which relied on students recognizing, recalling or “plugging in” what was learned out of context did not necessarily aid student learning and that authentic tasks which involved challenges and roles that help students rehearse for the complex ambiguities of the *game of adult and professional life* better supported the needs of learners for authentic learning. Others, such as Cumming and Maxwell (1999), Gulikers, Bastiaens, and Kirschner (2004), and Newman and Wehlage (1993) further supported the value of authentic assessments. Gulikers et al. (2004) for instance, viewed authentic assessments as being distinguished by the following five dimensions: 1) the assessment task, 2) the physical context of the task, 3) the social context of the task, 4) the assessment outcome or form, and 5) the assessment criteria. They held that the tasks must appropriately reflect the competency that needs to be assessed; the content must represent real-life problems in the knowledge domain being assessed; and the thinking processes used in real life to solve the problem must be expected from students who are undertaking the assessment task/s.

Also of this view, Rule (2006) in her broad review of authentic assessment in higher education, defined authentic learning and assessments as activities “that engage students in real-world inquiry problems involving higher order thinking skills with an authentic audience beyond the classroom” (p. 6). The four characteristics that she found common to authentic learning were: 1) involve real-world problems that mimic the work of professionals; 2) include open-ended inquiry, thinking skills, and metacognition; 3) engage students in discourse and social learning; and 4) empower students through choice to direct their own learning. This last aspect very much accords with Boud’s (2009) view of assessment. He believes that students should be aided in developing proficiency in making complex judgements about their own work and that of others and in making decisions in the uncertain and unpredictable circumstances in which they will find themselves in the future. Boud asserts that assessment activities should not only address the immediate needs of certification or feedback to students on their current learning, but also contribute in some way to their prospective lifelong learning. He regards students as active rather than passive learners who play a generative role instead of responsive role in their learning. He maintains that graduates in the workforce will generally not be taking examinations or writing academic essays but will be reflecting on and discerning what counts as good work and how whether or not they are producing it (Boud, 2009; 2010). Other researchers such as Moon (1999) and Ryan (2013) also advocate the use of reflective practice as integral to developing employability skills. In fact, reflective practice at university may be seen as the beginning of

the practice of continuing professional development, which is a major part of work performance and development in many professions. Ash and Clayton (2004), Ryan (2013), and Rogers (2001) are eager proponents of teaching and assessing reflective learning on a whole-of-course approach. Similarly, the reflective practice studies of Bain, Ballantyne, Mills and Lester (2002), Mabry (1998), Owen and Stupans (2009), and Power (2010) suggest that scaffolded reflection enables students to develop better thinking and action capabilities, both of which are necessary in the preparation for employment.

It is important to note that authentic assessments, while viewed as a meaningful contributor to student learning and preparation for working life are not being proposed as the sole instrument for such learning. A degree in higher education is ideally comprised of a complement of both historically-rich and conceptually-based assessments and newer multi-dimensional and applied authentic work-related assessments. As argued by Pally (2001); and Durkin & Main (2002) exams and tests, especially in disciplines where mastery of terms and definitions is critical such as medicine and law, may be effective methods of learning and measurement, particularly in first year. Hocker and Brossell (1986) similarly defend the value of the essay. Facilitating students' ability to think deeply, analyze critically and engage vigorously in the discourse of their disciplines, which is integral to higher education. One of the things that differentiates higher education from vocational education is the depth and breadth of understanding, analyzing disciplinary knowledge and concepts, and the intentional development of students' research abilities. These differences are reflected in the Australian Qualifications Framework's (AQF) taxonomy where the curricula standards of all levels of post-compulsory education are delineated (AQF, 2013). The standards for undergraduate and graduate degrees cover a deep and broad level of disciplinary knowledge; application of this knowledge to a range of scenarios; and development of skills and abilities commensurate with the level of study. AQF stipulates the need for students to be able to develop and evidence a strong cognitive foundation in their disciplinary field as well as creative, technical, communication, interpersonal and generic skills.

## RESEARCH AIM

In 2014-15 research was conducted at a large Australian University (with funding support from ACEN; Kaider & Hains-Wesson, 2015) to investigate the scope and types of assessments that were deemed to be "authentic" in terms of emulating real world professional practice in a sample of courses across the University. The origin of the study was a major course review at the University which aimed at increasing the number and type of authentic assessments offered to students in all courses. These types of assessments were intended to provide students with opportunities to apply and contextualize disciplinary knowledge and develop graduate capabilities in work-related scenarios in order to increase employability skills.

## METHODOLOGY

The methodology employed was an action-in-research framework, which is well suited to the evaluation of curriculum design (Carr & Kemmis, 1986; McAteer, 2013; Stenhouse, 1975). The action-in-research was comprised of a mixed method (Walter, 2010) of quantitative and qualitative components. The quantitative component of the study examined assessments in 40 courses, ten from each Faculty, via a desk-top audit of Unit Study Guides. Fifteen hundred individual assessments were examined and were individually grouped according to assessment type ( $n=1500$ ). The qualitative component of the study examined the assessment

features more closely, especially in relation to alignment with graduate capabilities and considered students' perceptions of their experiences and understandings of authentic assessments in a student focus group. This paper does not present the overall findings of the study, due to word limitations, but rather focuses on the development of an amended framework and typology of authentic assessments, which arose from the action-in-research. This development was unanticipated but critical for classifying and analysing the data in order to provide the University with evidence-based research that indicated where course and unit enhancements were required and why. This then resulted in offering the teaching and learning community a tool for addressing any gaps. Additionally, the framework and typology also held promise as a student engagement tool to aid in the self-management of students' graduate employability.

### *Methods*

The action-in-research methods included: 1) critically appraising the University's existing WIL framework (Oliver, 2012); 2) reviewing the literature on additional authentic assessment frameworks and typologies (Bosco & Ferns, 2014; Rowe, Winchester-Seeto, & Mackaway, 2012); 3) amending the existing framework and developing a typology of examples that would better aid the analysis of the assessments under investigation; 4) testing the revised framework and adapted typology against a sample of assessments; 5) validating the framework and typology by analyzing a further sample of assessments across multiple disciplines; 6) critically reflecting on and reviewing the proposed framework and typology with teaching and learning experts and colleagues; 7) implementing the adopted framework and typology by classifying and analyzing 1,500 assessments. And finally, presenting the findings more broadly to the education community as an approach to scaffolding authentic assessments at the course level for improving students' employability skill development.

### *Research-in-Action Outcome*

The research design was based on employing the University's existing framework for authentic work-related assessments. This was comprised of quadrants in which the vertical axis reflected the level of *authenticity* of a learning task in relation to real-world practice and the horizontal axis reflected *proximity* to the workplace, categorizing the learning activities and assessments into 1) *Low Authenticity-Low Proximity*; 2) *High Authenticity-Low Proximity*; 3) *Low Authenticity-High Proximity*; and 4) *High Authenticity-High Proximity* classifications. Although this framework provided a good foundation for generally charting learning tasks it became evident that not all assessments could be classified into the existing categories. Looking to the literature on other assessment frameworks and typologies (Bosco & Ferns, 2014; Rowe et al., 2012) the existing framework was amended to address the issue. The major change was the inclusion of a *Medium* category for both the *Authenticity* and the *Proximity* criteria. This expanded the original quadrants into a nine-cell grid, adding the categories of *Low Authenticity-Medium Proximity*; *Medium Authenticity-Medium Proximity*; *Medium Proximity-Low Authenticity*; and *Medium-Authenticity-High Proximity*. This expansion provided for a greater differentiation between the categories types, allowing for all the examined assessment types to be classified according to clearer criteria (Figure 1).

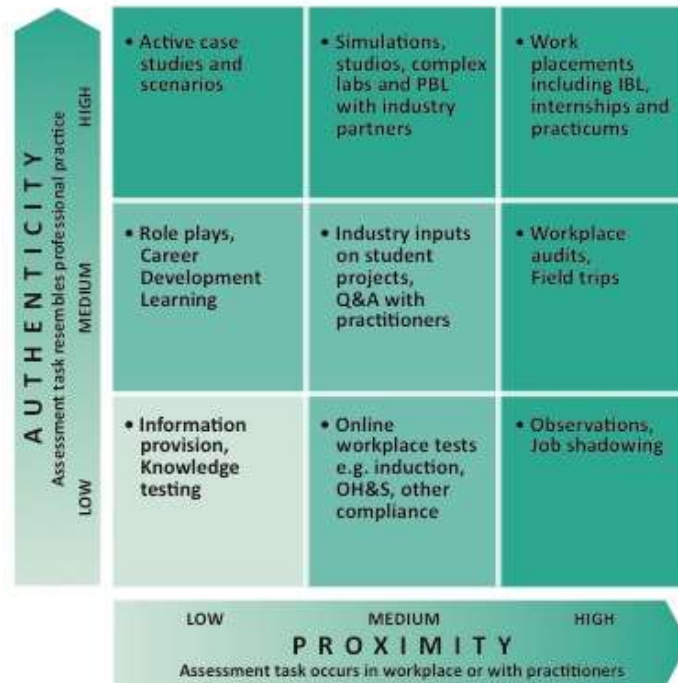


FIGURE 1: Expanded authenticity-proximity framework (adapted from Oliver, 2015)


The descriptions of the criteria on both axes were also expanded to read:

- *Authenticity*: learning activities and assessments requiring students to work on problems, processes and projects that they may encounter in their professions and produce artefacts reflecting professional practice.
- *Proximity*: learning experiences that occur in real workplaces and professional contexts; in online or live complex simulated workplace environments; and those that enable students to interact directly with industry practitioners or community members on work related activities

It is important to note that assessments which fall into the *Low-Authenticity* and *Low-Proximity* category are not regarded as authentic assessments or WIL. These assessments focus primarily on cognitively-based disciplinary knowledge, concept and theory development and critical analyses and most often take the form of essays, theses, and examinations. Integral to higher education as required by AQF (2013) it is the combination of these with their practical application to a range of scenarios, including work-based ones that are valuable to students.

In order to be able to apply the amended framework to the investigation further examples of authentic assessments were required so that all the different assessment types which emerged from the data could be classified. This was constructed as a typology (Table 1).

TABLE 1: Table of authentic learning activities and assessment examples

INTRODUCTORY WIL Learning activities <u>without</u> industry involvement	2nd & 3rd YEAR WIL Activities <u>with</u> industry Involvement	WIL PLACEMENTS Activities <u>within</u> host organizations
 <p><i>High Authenticity Low Proximity</i></p> <ul style="list-style-type: none"> <li>• <b>Simple simulations</b> - online or live</li> <li>• <b>Case studies</b> - professional context</li> <li>• <b>Studios</b></li> <li>• Authentic <b>simulations</b> such as full laboratory/practical/design work with multiple responsibilities and contingencies</li> </ul>	 <p><i>High Authenticity Medium Proximity</i></p> <ul style="list-style-type: none"> <li>• <b>Complex simulated online or face-to-face workplace environments</b> such as moot courts; extensive role play simulations</li> <li>• <b>Studios or practice clinics</b> such as design, business or performing arts studios; health clinics</li> <li>• <b>Laboratory days</b> including planning, set-up and experiments plus handling contingencies</li> <li>• <b>Projects for organizations</b> - individuals or student teams undertake consulting projects for businesses</li> <li>• <b>Problem-based learning with or within organizations</b> – problem solving for clients</li> <li>• <b>Community-based projects</b> for the not-for-profit/community sector</li> <li>• <b>Capstone units</b> that provide for work place projects</li> </ul>	 <p><i>High Authenticity High Proximity</i></p> <p>Work placements of various types can take place in any year or frequency; for varying lengths of time; and for varying intensities and complexities, and include:</p> <ul style="list-style-type: none"> <li>• <b>Internships</b>, practicums, co-op years, clinical placements, Industry Based Learning (IBL)</li> <li>• <b>Work Based Learning (WBL)</b> where students are employed in an organization and specifically fashion their studies around their work, with University authorization, guidance and credentialing</li> <li>• <b>Industry-based (or community-based) projects</b> undertaken in the workplace for a nominal period of time but not a formal placement. Includes industry supervision or feedback</li> <li>• <b>Service learning</b> where students undertake voluntary work in the not-for-profit sector which is formally integrated into their studies</li> </ul>
 <p><i>Medium Authenticity Low Proximity</i></p> <ul style="list-style-type: none"> <li>• <b>Role plays</b></li> <li>• <b>Career Development Learning</b> activities such as composing resumes, job search activities, interview practice</li> </ul>	 <p><i>Medium Authenticity High Proximity</i></p> <ul style="list-style-type: none"> <li>• <b>Workplace audits, inspections</b></li> <li>• <b>Job shadowing</b></li> <li>• <b>Field trips</b></li> </ul>	
 <p><i>Lower Authenticity Medium Proximity</i></p> <ul style="list-style-type: none"> <li>• <b>Workplace checklist</b> – from afar</li> <li>• <b>Virtual workplace or work practice observation</b></li> </ul>	 <p><i>Medium Proximity Medium Authenticity</i></p> <ul style="list-style-type: none"> <li>• <b>Q and A with industry</b></li> <li>• <b>Input or feedback</b> from industry on real case studies, industry projects or presentations</li> <li>• <b>Mentoring by industry</b> of student groups or individuals</li> </ul>	
 <p><i>Lower Authenticity High Proximity</i></p> <ul style="list-style-type: none"> <li>• <b>Job shadowing</b> with no/few assigned tasks</li> <li>• <b>Observation</b> of workplaces or work practices without reporting</li> <li>• <b>Film/video</b> of workplace or work practices (with permission) for observation only</li> </ul>		

Although the typology was designed for categorizing and analyzing the data, it became evident that it could also serve as a resource for teaching staff. It could generate assessment ideas as well as guide academics in mapping progressively developmental assessment tasks across the course.

The grouping, into year levels, prospectively offers a horizontally and vertically scaffolded approach. Thus:

- *Introductory WIL*: offered in the first year introduces students to the world of work and the beginning of creating their own professional identity to meet their careers aspirations. The direct interaction with employers is limited at this stage though students may observe practitioners and workplaces.
- *Year 2 and 3 WIL*: afford students the opportunity to design and develop a range of artefacts that reflect practice in their professions; undertake processes characteristics of workplaces; and engage directly with industry/sector/community personnel. This may include learning in complex, simulated, workplace environments such as studios, moot courts and practice clinics in which students perform all or most of the functions that they would in a real work situation. Students may also be offered opportunities to interact directly with industry and/or community personnel in a client-consultant type relationship that is common in many professions. Additionally, direct interaction may also take the form of feedback from practitioners on student work; panels; and discussion groups, the essence of which students ideally integrate into summative assessments.
- *Placements* reflect a long tradition of on-the-job learning and vary in length, time offered, paid or unpaid, intensity and orientation.

#### ANALYSIS OF DATA

In accordance with stringent ethics requirements (BL-EC-60-13), this study investigated 1,500 assessments from 40 courses across four Faculties at a large Australian University to determine the nature and extent to which authentic assessments were embedded in courses. Course types and sizes varied and in some Faculties discipline majors were included. The ten courses from each Faculty were examined at different points in time by different researchers with efforts made to minimize interrater variability. Every assessment in the core units in a course, or in a course major were examined in accordance with *Authenticity* and *Proximity* framework and were graded into one of the nine categories illustrated in Figure 1. Only the description of the assessments as they appeared in Unit Guides were examined and it was recognized that these descriptions did not always include details that might have better reflected the authenticity-proximity dimensions. The totals for each category were then recorded for each course in each Faculty and plotted on the WIL framework. This provided a snapshot of the numbers and types of assessments that were offered by a sample of courses at the Faculty and University level. A smaller sample of authentic assessments were examined to look at the details more closely including how they aligned with graduate capabilities (Table 2).

#### *Findings and Discussion*

The findings revealed that all examined courses contained a number of authentic assessments with Faculty numbers ranging between 28% to 63%, and an average of 43% across all Faculties. This sample presented an indicative depiction rather than a representative one, which nevertheless, portrayed a very promising picture of the number and scope of authentic assessment activity in the Faculties. The authentic assessments were found to represent all eight of the authentic assessment framework cells. All of the assessments deemed to be authentic shared the *Authenticity* dimension, with the preponderance falling into the *Medium-Authenticity-Low Proximity* and *High-Authenticity-Low*



*Proximity* categories. This indicated that students were offered a variety of opportunities to produce a range of artefacts or were involved in processes representative of professional practice. These included artefacts such as project reports, proposals; briefing papers, articles, scripts, implementation plans and undertaking authentic processes such as teamwork projects, oral presentations, audits and performances. These assessment types reflect the authenticity dimensions identified by Gulikers, Bastiaens, and Kirschner (2004); and Rule (2006) as necessary for authentic real world-related learning. Fewer authentic assessments ranked *High* or *Medium* on the *Proximity* dimension. Designing assessments that are proximal to the workplace or workforce practitioners is much more challenging for academics than designing authentic work-related tasks. Arranging visits or projects in workplaces can be very time intensive as can be organizing students to interact directly with professional personnel. Academics may not have existing links with industry or the professions or may not find it easy to translate these into projects or interactions with students especially in industries or sectors where collaborations have not been the norm. Additionally, addressing legal and technical requirements and managing ongoing relationships may add to the challenge, even more so when partnerships are international. Yet the benefit of engagement with employers for students has been attested by Ferns, Smith, and Russell, (2014), and McLeland and Keating (2008) as well as by the research project's own student focus group (Kaider & Hains-Wesson, 2015).

Given that the findings demonstrated that many assessments were strong on the *Authenticity* dimension and less so on the *Proximity* an approach to strengthening current practice could be to augment existing assessments which scored well on the *Authenticity* dimension with practitioner involvement thereby also availing students *Proximity* to practitioners or workplaces This might include asking students to undertake a project *for* or *with* an industry/community partner instead of one *about* industry/community. It might include inviting industry or professional representatives to provide feedback on student presentations, performances or exhibits. It could also mean inviting a panel of industry representatives to engage with students on an assessment topic. *Medium* and *High Proximal* assessments could also be developed which allow for virtual interaction, rather than solely face-to-face with local as well as international partners.

The study found all authentic assessments aligned with graduate learning outcomes, the constructive alignment required by the University to facilitate student development of employability skills. This would have met the needs of members of the Australian Chamber of Commerce and Industry and the Business Council of Australia (2002) as well as other employers who have strongly voiced their wishes to employ graduates with these capabilities as well as satisfying AQF requirements (2013). Authentic assessments are a major vehicle through which to develop these capabilities as shown by Brimble et al. (2012), McLeland and Keating (2008), and Patrick et al., (2008). Looking at a smaller sample of assessments through a qualitative lens it was found that the most commonly developed graduate capabilities were communication, teamwork, critical thinking, problem-solving and self-management skills. The table below (Table 2) illustrates examples of this alignment. It also shows how the framework and typology were applied to determine the *Authenticity-Proximity* dimensions of the assessment.

TABLE 2: Examples of categorized authentic assessments

Assessment Task Description	Authenticity – Proximity Classification	Authenticity of Task	Proximity to Workplace/ Practitioner	Aligned and Assessed GLOs (generic capabilities)
<p><b>Grant Application</b> Teams develop a grant application (modelled on a municipal council arts grants) covering concept development, team capability, marketing, project planning and simple budget. Application to include use of visual aids, computer graphics, models, plans, website, or PowerPoint. Also individual reflection on team process.</p>	High Authenticity – Low Proximity	Task is highly authentic because it reflects industry processes and practice.	No interaction with the workforce or workplace.	Knowledge Communication Digital Literacy Critical Thinking Problem Solving Self-Management Teamwork Global Citizenship
<p><b>“Me in a Minute” Professional Pitch</b> Students are required to prepare and record a unique, yet professional one-minute video about themselves, indicating what their key strengths and competencies are to potential employers.</p>	High Authenticity – Medium Proximity	Students are required to appraise their skills and abilities as they might be asked to in a job interview or performance review.	Students are able to use this professional video in seeking internships and job in their communication with prospective employers.	Communication
<p><b>Development of IS Product for Client</b> Students develop an Information Systems product, using an Agile project management methodology.</p>	High Authenticity – High Proximity	Task is authentic because students develop a product used in the workplace.	Proximity to workplace is high because students work with a real client in a consultancy type scenario even though it is within a classroom environment.	Communication Problem Solving Teamwork

The sample of authentic assessments above illustrates an interesting and engaging array of learning activities in which students have opportunities to develop their employability skills through the application of the theoretical knowledge of their discipline to a range of work-related scenarios. It also provides the University with evidence of the ways in which specific graduate learning outcomes are being developed. Importantly this could serve as a means to more fully engage students in the learning and tracking of their own graduate skills

development through mechanisms that enable them to reflect on their progress which Owen and Stupans (2009), and Power (2010) support. Also, as Boud (2009, 2010) maintains, developing students' abilities for critical reflection and self-appraisal are vital for workforce competence and an integral part of continuing professional development then authentic assessments, if they are aligned with graduate capabilities, are an increasingly valuable part of the curriculum. Developing such curriculum is not always easy because units of study are already crowded with content; academics may not view this as a priority or feel competent in this field; and support may not be available. However, the framework and typology could initially be used to generate ideas for introducing authentic learning activities and assessments and later on serve as a guide for intentionally scaffolding the learning over the duration of a course. This would enable students to progressively develop graduate capabilities and applied work-related learning, the evidence of which could be collected and curated in a portfolio in preparation for employment strategies. There is evidence that some academics at this University and others are adopting this approach.

## CONCLUSION

The amended framework and typology that emerged from this research, employing an action-in-research methodology, provided a working schema for classifying and analyzing the authenticity of assessments in relation to work-relatedness as well as serving as a construct for how to view a large number and variety WIL learning experiences, both placement and non-placement, that could be offered to students over the duration of their course. The research project allowed the University to get a snapshot of what opportunities students were being given to develop their employability skills through authentic work-related assessments. The overall findings of the study indicated that an average of 43% of the sample of 40 courses offered students opportunities to undertake authentic tasks and learn in authentic work-related contexts. This applied learning met with the requirements of the Australian Qualifications Framework (2013) as well as addressing the needs voiced by industry groups such as the Australian Chamber of Commerce and Industry and the Business Council of Australia (2002) who place a premium on graduates with strong graduate capabilities. The alignment of the authentic assessments with graduate capabilities have been verified in studies by Brimble et al. (2012), McLeland and Keating (2008), and Patrick et al. (2008) to be valued by employers and student alike. Authentic work-related assessments could consequently serve as an important student engagement strategy if presented to students as a vehicle through which to prepare for employment by evidencing their employability skills. Designing and delivering curriculum which offers increased opportunities for students to undertake authentic work-related learning activities and assessments which are both authentic and proximal to workplace and work practices is not always straightforward. Academics may find it difficult to include additional content and processes into their teaching; or might not be persuaded by the merits of the approach; or are struggling with the extra time and resources required to implement it. The availability of the framework and typology which emerged from this study may assist them. Thus the benefits that arose from the development of an authentic assessment framework and typology served the simultaneous purpose of: 1) classifying different types of authentic assessments and analyzing the scope and range of these, and 2) prospectively serving as a guide for academics to design and deliver a larger variety and greater-dimensioned assessments by which to engage students to become active participants in collecting and curating evidence of the development of employability skills.

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