

# Embedding of authentic assessment in work-integrated learning curriculum

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Contemporary perspectives of higher education endorse a work integrated learning (WIL) approach to curriculum content, delivery and assessment. It is agreed that authenticity in learning relates to real-world experience, however, differentiating and strategically linking WIL provision and facilitation to assessment tasks and collation of authentic student evidence is critical. Irrespective of whether authentic learning tasks can be achieved in the education or workplace settings, the imperative of why an assessment is regarded as highly or minimally authentic needs to be better understood. The literature doesn't clearly describe such parameters for assessments, nor does comprehensive course review (CCR) use a structured framework to analyze WIL assessments in curriculum. An Authentic Assessment Framework (AAF) was designed to assist this gap in CCR and piloted at Curtin University to enable a consistent approach across programs and disciplines. This paper describes the process for developing that framework, highlighting the effectiveness in engaging WIL practitioners and informing authentic curriculum development. (*Asia Pacific Journal of Cooperative Education*, 2014, 15(4), 281-290)

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The Australian higher education sector has moved into a regulatory environment where standards and outcomes are monitored and measured. This has prompted sector-wide curriculum reform with an increasing focus on employability capabilities; student and graduate satisfaction; and the quality of the student experience (Hanover Research, 2012). Curriculum review and reform have become key strategies for universities in ensuring rigorous student outcomes evidenced by robust assessment profiles, and informed by collaborative stakeholder engagement.

Like most Australian universities, Curtin has established a systemic and rigorous approach to curriculum review which augers the University well for the transition to a standards-based, regulatory framework. Teaching areas focus on developing and implementing engaging courses and learning experiences to ensure a quality student experience. Curtin's Course Review Policy (Curtin University, 2013) stipulates that all courses must undergo Comprehensive Course Review (CCR) at least once every five years. Through CCR, the entire academic program is analyzed including: its regulations, structure, currency of the curriculum, quality of teaching and learning, work-integrated learning (WIL) activities, assessment profiles, and any other aspects which comprise the award course.

The employability of graduates in relation to professional degrees which are subject to industry accreditation is a mandate within the Higher Education sector. CCR complements the professional accreditation process by providing: evidence of the distribution of professional competencies across a course; detailed descriptions of the assessment process; and the frequency of employability capabilities. The introduction of the Authentic Assessment Framework (AAF) enables evidence of work-integrated learning (WIL) experiences which are embedded in curriculum. As sector requirements for evidence of course quality are evolving, Curtin is well-placed to meet the standards mandated by regulatory bodies. CCR is an intensive process which is evidence-based; engages teaching

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staff; and informs the development of a quality curriculum. The AAF is a valuable tool which complements the CCR process through the creation of a visual representation of the authenticity of the assessment profile across a program of study.

#### THE AUTHENTIC ASSESSMENT FRAMEWORK

An authentic assessment usually involves a single task that holds some relevance to the real-world setting and is formally evaluated within curricula (Gore, Griffiths, Ladwig, 2004). Such tasks reflect metacognitive skills, critical thinking and may specify the requirements and performance of an individual component of the curriculum for that 'real-world' setting. In contrast, AAF is able to assess the overall performance of a curriculum to provide composite knowledge regarding the potential veracity, range and relevancy of learning tasks applicable for that real-world setting. In curriculum renewal and review, the AAF provides a method for gauging student learning within curricula which provides direction for developmentally appropriate, student-focused, and actively engaging assessment (learning) strategies which develop decision making, communication and leadership skills relevant for future employment. The AAF provides the graphic evidence to challenge curricula to ensure that learning tasks have real-world experience and relevance for learning which can subsequently empower students to direct their own learning.

A collaborative internal consultative approach was used to develop the AAF; it was premised on scholarly research, contemporary literature, and national agendas in WIL. The vertical axis relates to the level of authenticity or proximity to real-world tasks, ranging from activities with nil or low level of authenticity to a high degree of authenticity. Whilst the horizontal axis reflects the proximity to the workplace, ranging from activities that take place in the traditional classroom to activities that occur the workplace. The AAF is divided into six 'cells', each containing descriptors relevant to the degree of authenticity and proximity to the workplace (Figure 1).

Curtin's strategic plan recognizes the importance of graduate employability outcomes and the perceived value of the student experience. Graduate employment rates, WIL experiences, and industry engagement and satisfaction feature prominently in the University's aspirations for the next five years. Evidence of where and how Curtin's Graduate Attributes are embedded in curriculum; an authentic assessment profile which provides evidence of students' skill acquisition; and coordinated opportunities for WIL and career development learning; are essential characteristics of a degree program at Curtin. The AAF is a valuable tool for addressing and implementing these strategic directions across the University.

Throughout the CCR process a variety of tools are used which provide visual representations of how and where elements of curriculum are scaffolded across a program of study. The AAF complements this suite of tools by creating a pictorial interpretation of the authentic assessment profile across the curriculum, thereby ascertaining the relevance of the student experience to the world of work. Summative assessment tasks are plotted on the AAF using the axes and descriptors in each cell as a guide. This 'visual synopsis' encourages active engagement of teaching staff promoting the development of a 'quality culture' in teaching and learning (Martensson, Roxa, & Olsson, 2011, p.51). According to Ferns and Moore (2012) professional skills embedded throughout the curriculum enhance the acquisition of employability capabilities in students.

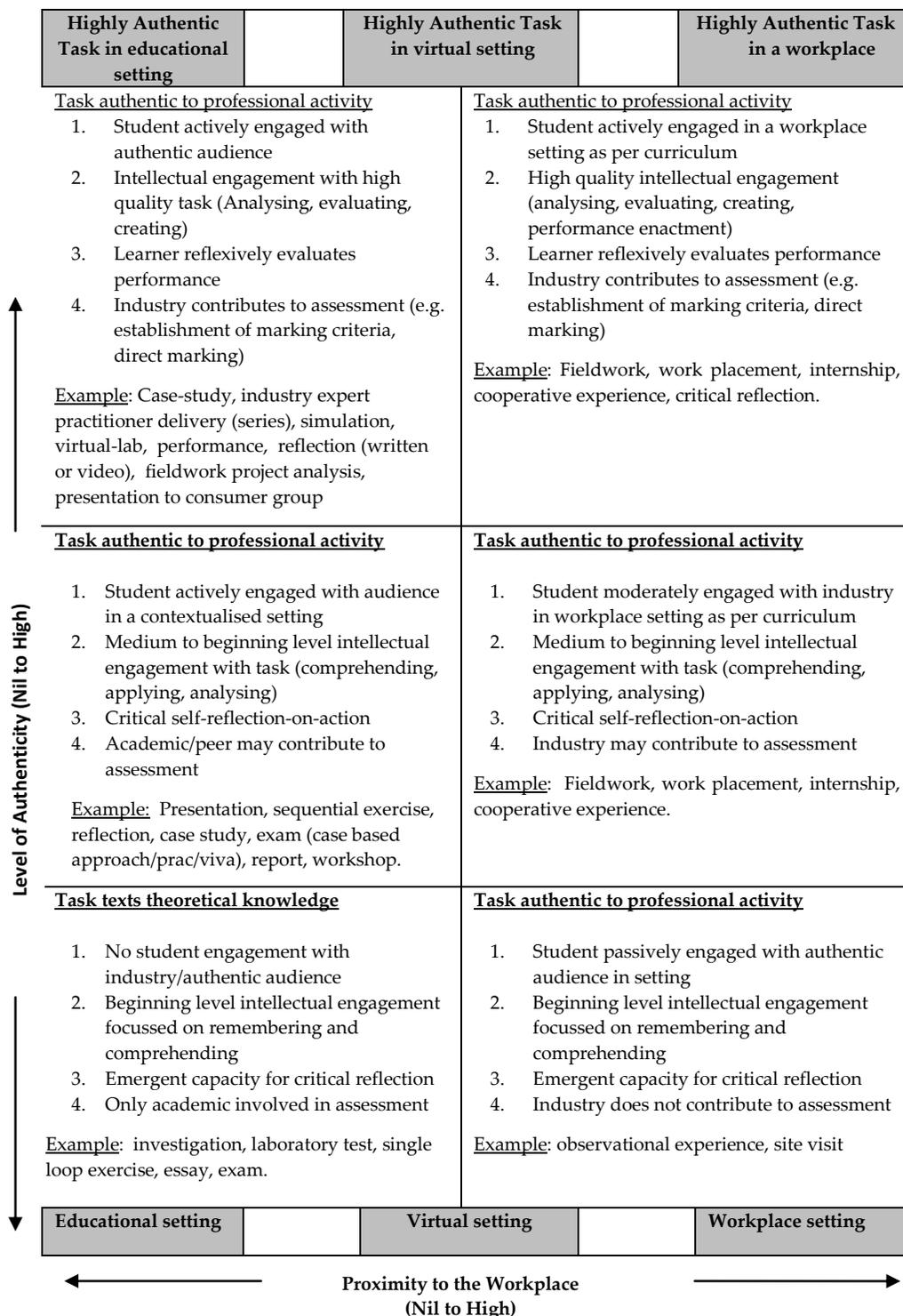


FIGURE 1: The Authentic Assessment Framework

The assessment framework promotes staff engagement and decision-making enabling a critical and constructive interrogation of the relevance and authenticity of the course experience and how and where work-readiness skills are developed (Ferns, McMahon, & Yorke, 2009). The framework, which was designed as a tool to complement the CCR process at the University, achieves multiple purposes. Firstly, and most importantly, the framework prompts discussion with teaching staff about WIL and its role in nurturing student employability. Engaging staff in discussion and realizing consistent perceptions of WIL, is pivotal to enacting the curriculum in such a way that reflects the philosophical and educational underpinnings of the WIL agenda. Furthermore, the WIL matrix provides evidence, and therefore accountability, of the skill development scaffolded across the curriculum. The visual data collection proves useful for both the university and professional accreditation bodies.

Contemporary perspectives of higher education endorse a WIL approach to programs, curriculum, delivery focus and assessment (Lombardi, 2008; Martin, Hebbard, & Green, 2011; Patrick et al., 2008; Veillard 2012). It is agreed that authenticity in learning relates to real-world experience (Patrick et al., 2008), however, differentiating between the tasks of providing and facilitating real-world experience (de Bruijn & Leeman, 2011) is significantly different to assessing and evidencing student outcomes of authentic learning tasks. From the perspective of student engagement the term “authentic” directly relates to the experience of learning and strives to reflect the attainment of that professional experience (Iverson, Lewis & Talbot, 2008). Although, Gulikers, Kester, Kirschner and Bastiaens (2008) argue that factors that influence student learning include perceptions of authenticity of assessments and the implications of this authenticity for real-world practice.

Authenticity in WIL learning tasks occur in the educational and workplace settings (Patrick et al., 2008; Welch, Vo-Tran, Pittayachawan & Reynolds, 2012). In order to foster engaged and work ready graduates, curriculum is focused on the introduction and development of authentic assessment tasks which reflect WIL in the education sector. Although the literature extensively explores specific examples of assessment tasks as examples of WIL authenticity (Koh, Tan, & Ng, 2012; Mackaway, Winchester-Seeto, Coulson, & Harvey, 2011; McNamara, Larkin & Beatson, 2009; Welch, Vo-Tran, Pittayachawan & Reynolds, 2012), limited research exists on the use of authentic assessment in curriculum. Iverson et al. (2008) proposed a framework for evaluating the authenticity of instructional tasks used within a teacher education program. In the Iverson study, conceptual codes synthesized from the literature were framed in relation to professional activity which formed the basis of the instructional tasks framework. These codes pertained to the environment, the quality of the task, self-reflection and implementation which informed the value of the learning experience and ultimately student outcomes.

Iverson et al. (2008) authentic instructional conceptual codes were analyzed and adapted to inform the development of descriptors which are embedded in the Curtin Teaching and Learning AAF. The descriptors were scaffolded to reflect the scope of learning required within a continuum of authentic assessments that are situated in both the educational and workplace settings. Importantly, the challenges of determining authenticity involved the deconstruction of the term authentic learning, authenticity in WIL and a description of theoretical underpinnings of what an authentic learning assessment can represent. The importance of developing a common language, understanding and perspective from a pedagogical frame in evaluating the efficacy of an authentic assessment framework was

recognized as pivotal to successful implementation of the Authentic Assessment Framework and ensuring staff buy-in.

As learning occurs on a continuum so too can authenticity in learning tasks be similarly scaffolded. Thus adopting a continuum framework that reflects authentic assessment which can be applied in educational and workplace learning centers as proximity of the learning task to the workplace setting can also be scaffolded makes sense. Authentic learning tasks are fundamental measures of a program's distinctiveness and serves as an important criteria for attracting students. Thus the evaluation of the authentic assessment framework will provide robust evidence of authentic artifacts of WIL that students can achieve.

While WIL is not a new concept, the drive for it to be a component of university education has gained recognition (Cooper et al., 2010). With the mandate from Government to increase student enrolments and address the equity and access agenda, the reality of all students accessing a WIL experience in the workplace is unlikely. To replicate the workplace experience and to provide authentic learning opportunities, WIL may take many forms and comprise diverse tasks. While the types of tasks will vary depending on the discipline context, all WIL tasks require reflection and conscious linking of theory and practical applications. WIL tasks may include: simulations, virtual simulations, case studies, role plays, portfolios, reflective journals, problem based learning, project work, mentoring from industry partners, work related presentations, and capstone subjects. Allocating a name to an activity does not automatically mean it is a highly authentic task which simulates a meaningful workplace scenario. However, with some guidelines around specific tasks, WIL activities have the potential to provide students with an insight of what the work place might be like.

This paper describes the development and pilot of the AAF at Curtin University. The framework reflects a developmental approach to the characteristics of authentic WIL assessments, and thus each cell demonstrates a developmental approach of the four descriptors believed to reflect this continuum of authenticity. Each assessment is required to satisfy all 4 descriptors of a particular cell for it to be categorized within that cell. Data is presented visually to heighten staff awareness of work place relevance embedded in the curriculum and to enable scrutiny of individual subjects or entire degree programs to determine how they function collectively across a program of study.

## METHOD

### *Study Design*

An exploratory, qualitative and quantitative study design was used to examine effectiveness and use of the AAF in evidencing WIL within curricula and engaging teaching staff in the WIL agenda. The first stage of this study was undertaken in two phases. The first phase was to pilot the AAF on five Curtin degree programs from across several faculties of the University (Health Sciences, Science and Engineering, Humanities and Business) undergoing CCR.

In this phase the overall dimensions and contexts of the AAF, and the individual descriptors comprising each cell, were discussed with the course development team prior to the commencement of CCR. At this meeting the AAF as an assessment and curriculum planning framework for use across programs was undertaken, with the principal aim of ensuring an opportunity of early discussion relating to the identification of valid and authentic WIL

assessments within and between components of a curriculum. The AAF consists of a pre-assessment descriptor to help guide discussion regarding authentic WIL assessments in curricula; a process to enable academics involved in curriculum development to undertake and consider a variety of WIL assessments that can be integrated within curricula that assures authenticity; a standard framework to visually record WIL assessments; and a plan and review system to enable contemporariness and relevancy of assessments for WIL maintained over time. Thus this framework was initially aimed at course developers and teaching staff involved in the course review. The AAF supports existing university policies and procedures which relate to, but is not limited to, eCourse review Policy, Fieldwork Education Policy, and Student Assessment and Progression Manual.

The four main stages in incorporating the AAF as part of CCR were: identifying the professional requirements early in curriculum development; assessing how these requirements could be integrated within curricula; ensuring delivery/achievement of such expectations; and reviewing this integration within existing university policies and the professional context/requirement. The reason that these procedures were included was to ensure that the inter-assessor reliability was maintained, and facilitate homogeneity of the course developers' perceptions.

Secondly, two focus group discussions, with four course developers in each group, were held with course developers from the central Teaching and Learning department. This method has been shown to be useful in gathering data about perceptions and experiences with a small number of people focusing on a specific area of interest (Creswell, 2012). Each of the focus groups involved four participants, and were audio recorded, data was gathered in relation to strengths and weaknesses of the AAF; generating a broad perspective discussion from within the group. The focus groups allowed participants to communicate freely and honestly and to draw from each other's common and differing experiences in order to better unpack the information and to explain this to the focus group facilitator. Data was analyzed thematically from verbatim transcripts in relation to usefulness, applicability, acceptability, and accommodations required during curriculum review.

#### *Ethical Approval*

Ethical approval for the project was obtained from the Human Research Ethics Office at Curtin University. Written consent was obtained from study participants.

## FINDINGS

The assessments of the selected curricula were mapped against the AAF and a scatterplot was generated to allow the visualization of WIL evidence within curricula (Figure 2, 3, and 4). This scatterplot provided WIL evidence across units and programs which demonstrated range, distribution and context of WIL within curricula.

Figures 2, 3, and 4 are visual representations of assessment across degree programs and provide cumulative evidence showing the scope of authenticity for all summative assessments and the location in which the assessments were conducted. While pharmacy (Figure 2) administers a high number of authentic assessment tasks, there is scope to increase opportunities for students to undertake assessments in the workplace setting. To make this a reality, industry partnerships will be a key theme for the teaching area. Biomedical science is a research focused degree and optimizes the opportunity to create authentic tasks in a workplace environment. This is reflected in Figure 3 with the scatter plot showing an

adequate range of highly authentic tasks in diverse settings. Figure 4 demonstrates the challenges for the accounting discipline in accessing workplace opportunities for large student cohorts in a highly regulated industry. The teaching area is endeavoring to enhance the relevance of assessment by recreating workplace scenarios in the university setting.

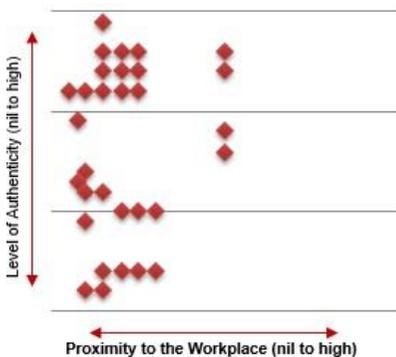


FIGURE 2: Pharmacy Authentic Assessment Framework

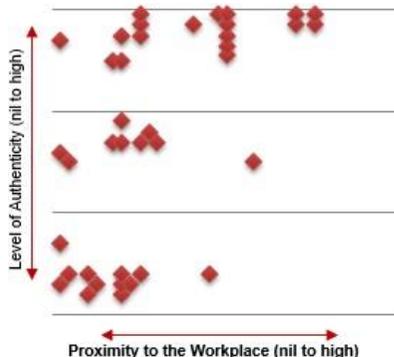


FIGURE 3: Biomedical Science Authentic Assessment Framework

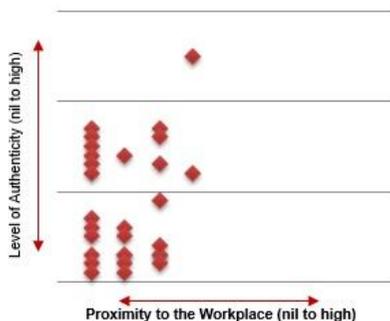


FIGURE 4: Accounting Authentic Assessment Framework

Thematic content analysis was undertaken using the transcribed focus group conversations to collate and condense the information gathered into distinct and succinct themes; and derive recommendations to further refine and improve the design of the AAF and its value for curriculum development.

RESULTS

*Initial Challenges and Getting Started*

From the course developers' perspective, the challenges in getting started in CCR involves establishing process; goal setting to ensure appropriate timely completion; reporting requirements at all levels of the university; and ensuring there is compliance with external accreditation or professional requirements. Furthermore, in many cases the academics involved in particular programs are unfamiliar with CCR, and rely on the Course Developers to lead initial discussions. In addition, the Course Developers are not necessarily grounded in professional knowledge or expertise specific to the program engaged in CCR. This means that each group relies on the other's expertise in the field of CCR, and neither is necessarily

experienced in this to offer best practice advice and counsel in WIL. The AAF provides opportunity to creatively solve the issues for WIL in curricula, this is reflected in statements made by some of the participants. Participant A stated, “my experience with course x is they are reluctant to do any fieldwork because of the impediments around fieldwork, large student numbers and the occupational and safety compliance requirements,” and participant B that, “some areas have large amounts of fieldwork built into the program, other courses they do fieldwork as part of work experience and it’s not linked to assessment”. Participant C said, “we found out last week that students are required to do 80 days of professional practice and it’s not structured into the course. The monitoring process is adhoc – so where is the assurance of learning?” and participant D, “another course had historically experienced the same issue and built it into their curriculum”.

These feedback quotes demonstrate the frustration staff experienced with the inexplicit and loosely-structured courses that had existed in some faculties/situations. They were further disappointed with the wastage of time in situations where students would have benefitted from clearly outlined and appropriately managed WIL requirements and scenarios. Participant B commented

Here I’m trying to sort course x who has four accreditation bodies; they had to send an interim report outlining the competencies to one of their accreditation body four months ago. Thus what I do is totally irrelevant. In another course, the accreditors’ request the information and it was sent a month before and the information I put on the [curriculum] map is irrelevant”.

The AAF was also useful in demonstrating the range of WIL assessment completed both in the academic and professional setting. Although this too can present with particular challenges when trying to analyze the differences between assessments and creating assessments that diversify and reflect the tasks of the profession. Thus teasing out the complexities of professional learning can be broadened as suggested by participant A, “what was necessary is to differentiate between what is work experience, a vicarious experience or being employed by the sector and the structure of units that include a lot of simulation”.

#### *Using the Framework to Evidence Authenticity in WIL*

The AAF was useful for demonstrating a program’s depth and breadth of authentic assessments. In this context the emphasis of learning was student driven, where the student was actively engaged with an authentic audience and industry to achieve intended assessment outcomes. Courses may reflect changes to accreditation requirements and reflect an integrative scaffolded approach to learning; however, the measures of WIL assessment can be determined internally. For example participant A said, “the guidelines for embedding the extent of fieldwork in a course depend on the accreditation requirements [of that course]”. And participant B noted that:

Generally in the health sciences, accredited course fieldwork is set in stone, except for speech pathology, where the map is used to validate fieldwork.... In Health Sciences fieldwork is scaffolded throughout the course compared with other programs where impromptu applications exist.

#### *Differences in Programs*

Unpacking what is discipline knowledge and practice in assessments was considered an important element in evidencing WIL. It was an imperative of the Course Developer to unpack the active engagement of the learner in the discipline fieldwork knowledge and

practice. For example participant C stated, “You can be actively engaged in practice but not doing the discipline knowledge and practice. Building the skills and knowledge, the AAF was useful for asking the questions ‘what are they doing in practice?’ This can then align with the accreditation requirements”. The integration of the descriptors within the AAF was also useful in developing high quality intellectual engagement with the assessment task. Using Bloom’s taxonomy of levels to scaffold learning and evidence the extent of WIL provided a consistent framework between using the AAF alongside the CCR process. For example participant B stated, “I found that the descriptors linked quite well with the levels of thinking and on clinical placements the unit learning outcomes were mainly 5 [evaluation] and 6 [creation]”.

## CONCLUSION

Universities are increasingly accountable for the quality and proficiency of the graduates they produce. Stakeholders including government, industry, and students have expectations that graduates of a university qualification will have acquired the necessary skills to contribute to the productivity of the Australian economy and be able to transfer those skills in a global context. A quality curriculum which integrates WIL experiences both vertically and horizontally, and scaffolds skill development across a program is imperative to addressing this requirement. In order to achieve this mandate, an evidence-based approach is required whereby staff engage in robust discussion about the authenticity of an assessment profile and how effective it is in nurturing graduate employability capabilities. The AAF has been developed to complement the CCR process. This tool facilitates careful contemplation and collaboration of how student learning is evidenced and skills are developed. The graphic representation provides a visual image of assessment across a program and assists in identifying gaps and strengths in an assessment profile and how it might be improved to address the need for authenticity in the student experience. While the framework will require ongoing refinement, it has proved to be a flexible tool which can be adapted to diverse disciplines and contexts. Most importantly, it is useful for ensuring the WIL agenda is addressed during the CCR process and staff are exposed to opportunities where authentic assessment is given due consideration.

Given the project outcomes from this pilot, it is apparent that the AAF is a valuable tool for engaging staff in embedding WIL in curriculum. Some recommended refinements have emerged from this research. The AAF has been reshaped according to feedback from participants. Findings from national research projects and recent literature have also informed the reframing of the AAF. The overall design of the framework remains the same but the descriptors within each cell have changed. The descriptors reflect key elements of authentic learning and assessment identified through contemporary research. The descriptors have been rewritten to reflect the level of autonomy, responsibility, contribution, diversity and engagement implicit in the assessment task. As these qualities increase in complexity, the task becomes more authentic with closer alignment to a work-based environment. Testing the refined AAF in a range of contexts is currently underway. Given the state of dynamic global change in higher education a flexible approach to embedding WIL in curriculum is essential.

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*Research reports* should contain; an introduction that describes relevant literature and sets the context of the inquiry, a description and justification for the methodology employed, a description of the research findings-tabulated as appropriate, a discussion of the importance of the findings including their significance for practitioners, and a conclusion preferably incorporating suggestions for further research.

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